Industrial Equipment News

FOUNDED 1933

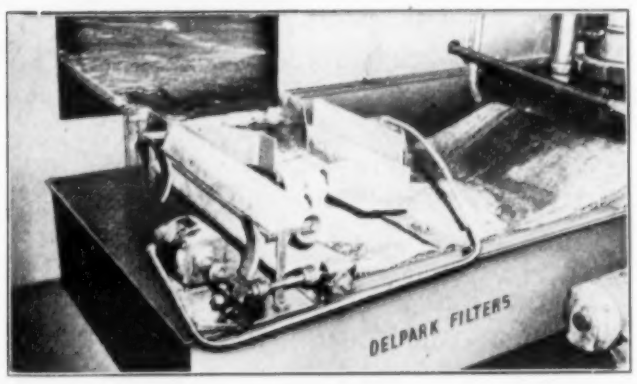
ORIGINAL REPORTER OF *What's New* IN EQUIPMENT, PARTS, MATERIALS

AFFILIATED WITH THOMAS REGISTER OF AMERICAN MANUFACTURERS

If you write maker identify as **IEN - 7292**

FILTERING . . Conveyor type unit separates paint sludge from booth water

Source: INDUSTRIAL FILTRATION CO.
253 Industrial Ave., Lebanon, Ind.



Specified capacity

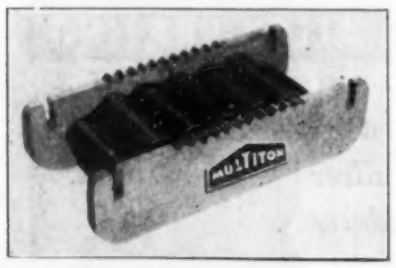
Overspray from a water wash paint booth is flocculated by addition of a compound to the booth water. The floating matte that results is directed by water jets to a weir in this new application of the Delpark conveyor type filter. Filtered water from the sump beneath the filter is pumped into the paint booth tank at timed intervals to raise the level there and flow the accumulated matte onto the moving filter sheet. The water passes through the sheet. The paint moves with the sheet to discharge at one end.

Application of the new equipment eliminates hand skimming, removes dirt that has accumulated from the atmosphere as well as the overspray paint. Pumps and nozzles handling the booth water will not clog. The water itself will continue clean. The unit prevents loss of booth water and flocculating solution, permits separation of different runs of paint for reclaiming, improves housekeeping generally.

If you write maker identify as **IEN - 7293**

HANDLING . . Roller bearing skid to move heavy objects readily

Source: STOKVIS EDERA & CO.
93-95 Madison Ave., New York 16, N. Y.



Made in Sweden

Multiton trade names a new roller bearing skid. It consists of a steel frame with a horizontal connecting plate and a set of rollers that contact the floor, bear up under the plate, clear below the top and roll around the plate. A Servus design connects the rollers with links. A Linkless design mounts ball spacers between the roll pins in place of the links. Teeth in the upper edges of the frame prevent slipping on the underside of the object being moved. Application is direct under a flat bottom load. It is under skids carrying the load when the latter is not flat.

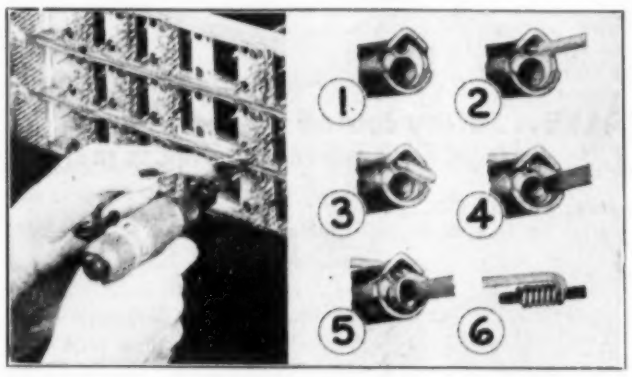
Three Servus sizes rate 15 to 80 ton in load capacity. The smallest measures 8 by 3¾ by about 2½ inches. The largest is about 12 by 5⅛ by 3¾ inches. List prices are $34 to $52. Three Linkless sizes range from 12 to 20 in. in length, 5¼ to 8 in. in width and 3½ to 4 in. in height. The smallest one lists at $75.

GIVE BLOOD

If you write maker identify as **IEN - 7294**

FASTENING . . Wire wrapping tool makes solderless electric connections

Source: KELLER TOOL CO.
1948 Parks St., Grand Haven, Mich.



Ask for Bulletin 11

Wire Wrap trade names a new portable tool, with electric or pneumatic drive. It is being manufactured and sold, under patent license agreement with Western Electric Company, to make quick application of electric wire on rectangular terminals. It will handle No. 24 to No. 20 wire. It will wrap the wires for solderless assembly on terminals $\frac{1}{16}$ or $\frac{5}{32}$ in. in width. It will wind wire for soldering on ⅛-in. terminals.

Insulation is stripped for a bare wire length equal to the amount of wrap. The bare wire is inserted between the stationary outer sleeve on the tool and the inner rotating wrapping bit. A groove on the bit engages the wire. A slot on the sleeve guides it. The bit is positioned over the terminal and rotated for a brief interval to complete the wrap.

Three tools are available, all ball bearing design. Two operate on compressed air and have pistol grips or straight handles. One employs a 110-volt universal motor and a pistol grip. List price for a complete pneumatic unit is $85. It is $95 for the electric tool. Complete nose assemblies, to include the wrapping bit for a given size wire and terminal with the stationary sleeve, is $35. Wrapping bits only are $11 and sleeves only are $5.75.

If you write maker identify as **IEN - 7295**

WEIGHING . . Electronic equipment reads scale, actuates business machine

Source: INDUSTRIAL ELECTRONIC ENGINEERS
3971-75 Lankershim Blvd., North Hollywood, Calif.

Totalizing Scale

Type ETS-7 designates new electronic equipment that will record net weight readings from a dial scale and will enter this information into a business machine. Weights can be itemized, sub-totaled, totaled, printed automatically on tape or a business form. The information can be stored, subtracted, multiplied, extended. An entire invoice can be filled out automatically as orders are weighed. Any number of scales, business machines or IBM units can be used simultaneously through one assembly of the electronic equipment.

Application can be made in connection with batching, preparing freight invoices, recording net weights in production runs. Weight readings can be recorded as fast as one unit per second. The equipment will control conveyor, monorail or hopper delivery across one or more scales. It has been certified by the Bureau of Weights and Measures in California.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

JULY, 1953
VOL. 21 No. 7

PRODUCT FINDING INDEX

What do you need? . . . check this complete subject index for your current product needs. Asterisks (*) after page numbers mean editorial items. Others refer to advertisements.

ABRASIVES 48
Adhesives 74*
Air Conditioning 42, 74*
Alloys 3, 12, 24*, 51
Aluminum 24*
Assembling 6*, 79*

BAGS 5*, 14
Balancing 24
BALLS
Metal 46
Sapphire 6
Barriers, Parking Lot 50
Batteries 74*, 79
Bearings 2, 5, 18, 20, 24*, 38, 44, 74*, 80, 81, 100
Bellows, Metal 85
BELTS
Conveyor 49, 61
Transmission 43, 59, 64
Benches 67*, 107
Bending 12, 16, 17, 25, 33*, 34, 36, 53, 69, 75, 98
Bimetal 87
Bins 19, 97*
Blowers 33, 90, 92, 93, 98
Boilers 13, 22*, 44*, 45
Bolts 30, 87
BOOTHS
Spray 55
Telephone 56, 87*
Boring 6*, 32, 80*, 102
Boxes 19, 29*, 30, 35, 66, 70, 88
Brakes 5, 32, 72*
Brazing 2, 15*, 78, 92, 95, 109*
Broaching 22*
Brushes 54, 66*, 68, 101, 112
BUILDINGS 6, 22, 45*, 57*, 65, 71, 104*
Bulkheads 65
Bundling 83, 87
Burring 29, 30
Bushings, Drill 13

CABINETS 4
Cable, Electric 8, 15, 24*, 37, 51, 68, 74*
Capacitors 75*, 103
Cars 56*, 65
Casters 25, 35, 89*, 99, 100, 102*, 104*
Castings 75*
Cement, Iron 11
Centers, Machine 76
Centrifugals 68
CHAIN
Bead 103
Conveyor 7
Fittings 106
Transmission 20*, 91, 105
Chucks 47
Circuit Breakers 26, 106
Circuits, Electric 42*
Clamps 8, 14, 38, 46, 51, 53*, 65*, 75*, 76, 85, 88, 98
CLEANING
Blast 9, 71, 75*, 90, 98
Blower 93
Drain 64
Floor 22, 28, 45, 57*, 64*, 112
Materials 6*, 16, 28, 31*, 47*, 51*, 75*, 80, 86
Rotary 60
Spray 28
Vacuum 22, 28, 36, 53, 79, 82, 93
Vapor 79
Washing 2*, 34, 55, 94
Clutches 32, 44, 45, 75*, 92*, 97*
Communicating 45, 56, 87*, 96
Commutator Tools 75*
Compressors 20, 39, 41, 62, 76*
Condensate Return Equipment 26, 77
Conductors, Electric 3, 8, 15, 24*, 37, 42*, 51, 68, 74*
CONDUIT 76*
Fittings 73
Connectors, Electric 36*, 49, 56, 74, 76*, 86, 95
Construction 59*, 76*, 77*
Contactors 96
CONTROLS
Engine 71
Flow 107*
Liquid Level 44
Machine Tool 22, 44*
Material Level 4, 10, 49*
Pressure 33, 53, 59, 95*, 100*
Process 76*
Production 24, 84
Temperature 23, 37, 56, 76*, 97, 101, 102, 108, 110*, 111
Viscosity 76*
Voltage 5, 30, 41, 67*
Conversion Tables 25*
CONVEYING
Belt 11, 12*, 24, 49, 61, 69*, 76*, 78
Chain 7
Overhead 6, 14, 18, 25, 47, 82*
Pneumatic 34, 60*
Roller 25*, 78
Screw 89
Wheel 6, 59*, 112
Cooling 3, 27, 48*, 62, 105
Corrosion Proofing 5*, 18, 28, 44, 63, 83*, 103
Counting 27*, 50, 56
Couplings, Shaft 35*, 44*, 101
Covers, Dock 21, 98*
Cranes 6, 47, 55*, 59, 99
CUTTING
Tools 80, 93, 101*
Ultrasonic 54*
Cylinders, Power 21, 22, 37, 39, 63, 89*, 94, 105

DEGREASING 47*, 79
DETECTORS
Leak 79*
Metal 27
Die Castings 31
Disinfecting 80
Disintegrating 108
Dispensing 7, 19, 32*, 47, 62
Dockboards 97
DOORS 14, 24, 69, 110*
Hardware 28
Operators 10, 15, 40*, 69, 76*
Drafting 3, 10*, 43, 104
DRILLING
Bushings 13
Heads 31, 81
Jigs 10*, 16
Machines 29, 78*, 82
Tools 67*, 78*, 81, 91, 109
DRIVES
Adjustable Speed 13, 104*
Components 3, 5, 20*, 32, 35*, 40*, 43, 44*, 44, 45, 48, 59, 60, 64, 76, 91, 92*, 97*, 101, 105
Speed Reducer 3*, 9, 13, 42, 53, 58*, 71, 88, 93
Variable Speed 26, 42*, 54, 61*, 78*, 98, 101, 109*
Drying 5, 25*, 42, 46*, 83
DUCT
Electric 43*
Ventilating 42
Dust Collecting 14, 32, 35, 51, 55, 88, 98

EJECTORS 83
Electrical Products 59, 78*
Electronic Products 26*, 51, 78*
Elevators 36, 38, 52*, 76, 78*, 84, 106*
Engines 23, 97
Engraving 46*, 71, 78*
Erasing 104
Etching 46*
EXPANDING 106*
Exterminating 38*
Extinguishing 2, 49
Extracting 108

FABRICATING 53
Fabrics 56
Fans 8*, 30*, 57, 58, 66, 71, 90, 96, 112
Fastening Tools 1*
Fastenings 9, 13, 26, 28*, 30, 31, 38, 39, 46, 49, 50, 54, 62, 72, 76, 78*, 78, 83*, 87, 92, 109
Faucet Repair Parts 12
FEEDING 80, 96*, 107, 110
Felt 37
Fence 19, 67
Filling 36
Filing 49
FILTERING
Air 4, 23, 33, 43*
Liquid 1*, 5*, 21*, 33, 34*, 66, 70, 101
First Aid 3
Flexible Shaft Equipment 30, 78*
Floats 83
Floors 7, 37*, 45, 58, 78*, 94*, 96, 97, 104, 107, 109, 111, 112
Fluxes 37*
Forgings 109
FORMING 10, 93
Foundry Equipment 27*
Fountains, Drinking 62
Fume Collecting 11*
Furnaces 19*, 23*, 65, 107*
Furniture 67*, 80*, 82, 89, 107
Fuses 104

Reader Service Form....16, 96
Useful Information 24
New Literature 74
Ideas For You....56
"I Wish I Had" 112

GAGES
Dimensional 25*, 33*, 35*, 52, 79, 80*, 93*, 96, 105, 108*
Liquid Level 52*, 67
Pressure 34, 57, 80*, 83
Strain 73, 91*
Surface Roughness 29, 80*, 85
Gaskets 41*, 41, 68
Gears 43, 60, 76
Generators, Steam 13, 22*, 45
Glare Proofing 22
Glass 57*
GLOVES 43, 58, 72
Reconditioning Service 107
Goggles 14, 27, 48
Governors 71
Grabs 8, 85, 106
Grating, Floor 7, 58, 94*, 96
GRINDING
Belts 48
Heads 31
Machines 16*, 16, 30, 87, 90*
Spindles 26
Tools 8, 41, 109
Wheels 21, 56*, 81, 98
Grooving 80
Guides, Band Saw 6

HAMMERS 7, 32*, 86
Hand Wheels 38
Handles 69, 100
Handling 1*, 8, 16, 19, 29*, 30, 35, 36, 48, 57, 62, 64, 66, 70, 72*, 73, 79*, 80*, 81, 85, 88, 99*, 100, 106
Hard Facing 46
Hardboard 47
HEADS
Drill 31, 81
Grinding 31
Tapping 10, 81
Heat Exchanging 27, 48*, 105
Heat Treating 19*, 25*, 61*, 65, 78, 80*, 95
HEATING
Elements 5, 11, 32, 40, 105, 106
Flame 61, 92
Furnace 23*, 71*
High Frequency 15*, 25*, 46*, 61*, 78, 95
Liquid 15*, 20, 42, 48*
Oven 42, 55, 82
Process 42
Space 28, 30, 45*, 48, 80*, 110
Hoists 13, 41, 44, 60, 62, 65, 72, 78, 87, 99
Hoppers 35, 70, 110
HOSE 38, 94
Fittings 24, 38*, 44, 46, 76, 94, 102
Metal 19, 91

(Continued Over)

FOR ROUTING to others in your plant interested in product information

- ☐ *Plant Operating, Mr.* .....
- ☐ *Production, Mr.* .....
- ☐ *Engineering, Mr.* .....
- ☐ *Product Design, Mr.* .....
- ☐ *Purchasing, Mr.* .....
- ☐ .....

IDLERS, CONVEYOR 69*
Indexing 68*
Indicators, Temperature 71*
Ingot Strippers 73
Ink 17
INSULATING
Electric 19*, 21, 51*, 77, 86, 87*, 108*
Thermal 17, 26*, 31*, 80*
Iron Alloys 51
Isolating, Vibration ...12, 80*, 111*

JACKS 2, 34, 35, 39, 70*, 75
JOINTS, Pipe 20, 32, 111
Shaft 5

KEYSEATING 57

LABELS 5, 18, 89
Ladders 37, 97, 105
Laminating 3*
Lamps 59, 99*
Lathes 37, 80*, 109
Layout 57*, 64, 93
LIGHTING ..29*, 59, 60, 62*, 66, 99*
Lights, Indicating 58, 71*
Lockers 59
Locknuts 49, 109
Locks 39, 82*
Lockwashers 46, 62
Louvers 22, 23, 64
LUBRICATING
Equipment ..27, 33, 43*, 52, 74, 101
Materials 3, 4, 34*, 42, 82*, 91*, 99, 108

MACHINERY 74, 82*
Magnetic Powders 82*, 96
Magnets 66*, 82*, 110, 112
Magnifying 26, 93*
Management ..26*, 32*, 52*, 84, 98*
MARKING
Machines 17*, 46*, 54, 57
Materials 5, 17, 18, 89*, 89, 99
Masking 50, 89*, 96*
Masking 50, 89*, 96*
Matrix Materials 12
Mats, Floor 37*
Melting 10, 41*, 42, 61, 78, 92, 95
METAL Parts 9
Shapes 16, 33*, 111
Treating 82*
METALS
Design Strengthened 8
Perforated 98
Powders 82*, 96
Thermostatic 87
METERS
Air Velocity 34
Electric 12*, 14*, 15, 60*, 99, 101, 112
Flow 34, 55*, 95*
Illumination 65
Liquid 42, 47, 68, 80, 95
MILLING
Attachments 31
Cutters 82*, 93, 101*
Machines 27, 34, 71, 74, 111*
Mixing 38, 46, 54, 55, 77*
Models, Industrial 57*, 64
Molybdenum 4
Monorail 6, 82*
Motor Control 12, 52, 84*
Motors 18*, 54, 68*, 70, 82*, 84*
Mowing 72

NAILS 9
Nameplates 40, 61, 66, 72
New Products 26*
Nickel Alloys 3
Nozzles 11, 23, 49, 67, 72, 90
Nuts 30, 31, 83*

OIL TREATING 66
Ovens 42, 55, 82

PACKAGING
Containers 5*, 14, 29*, 50
Equipment .7, 8, 36, 47, 61, 62, 107
Materials 26*, 31, 35, 55, 60, 63, 104*
Packings 41, 84, 88
Pails 64
PAINTING
Equipment 55, 79
Materials 3*, 28, 38, 73
Pencils 3
Pins, Drive 78
PIPE 41, 84*, 93
Coils 32, 43
Fabricated 84*
Fittings 20, 32, 40, 41*, 84*, 111
PLASTICS
Laminating 3*
Materials 42*, 43, 70, 84*, 88, 89, 103*, 111
Molding 84*
Products 50, 68, 69*, 69, 77, 84
PLATES
Floor 45
Surface 93
Plating 43, 48*, 84*
Pliers 59*
Plugs, Ear 7
Plywood 59*, 100
Polishing 8*, 38*, 41, 70*, 84*
Porcelain Enamel 46*
Powder Metal Parts 80, 82*, 100
PRESSES
Attachments 80
Hand 21*, 103*
Hydraulic 21*, 35, 51*, 53*, 70*, 82, 99
Mechanical 29, 36, 69, 84*
Tools 74, 100, 103*
Printing 9, 18*, 38, 61, 85, 90*
Processing 24, 28*, 84*
Projecting 79
Protecting 3, 7, 14, 16*, 21, 22, 27, 31* 40, 43, 48, 58, 72, 94*, 96*, 98*, 107, 109*
Pulling 31, 39
PUMPS
Centrifugal 17, 39*, 39, 41*, 47*, 48, 57, 79
Condensate 26, 77
Hand 19, 28, 75
Hydraulic 28, 75, 84*, 91 105*, 111*
Pneumatic 67
Rotary ..17*, 18, 31, 35, 66*, 74, 110
Screw 84*
Turbine 63*
Vacuum 20, 83
Punching 23*, 102
Pyrometers .7, 91, 102, 108, 110*, 112

RACKS 11, 75, 85
Rails 15
Reaming 106*
Record Keeping 24
Recorder Peas 42
Rectifying 70
Reducers, Speed 3*, 9, 13, 42, 53, 58*, 71, 88, 98
Reeling 48
Refractories 45, 46
Refrigerating 7*, 24, 36*, 54*
REGISTER, MANUFACTURERS' ..50*
Relays 77, 94, 102
Resistors 63
Respirators 16*, 27
Rheostats 11, 30, 63
Ribbons, Typewriter 99*
RIVETS 28*, 30, 31
Rock Drilling 20, 62*
Rolling 7*, 12
Roofs 71, 73
Routing 20
Rubber Products 15, 94

SANDING 8*, 27, 41, 85*, 112
Sapphire, Synthetic 6
SAWING
Attachments 9*, 95
Blades 28*, 40, 63, 86*
Machines 16, 46, 64*, 90*, 95, 109, 110
Machine Parts 6
Setting 81*
Tools 73*, 86*, 91*
Scaffolds 15*, 25, 58
Scales 1*, 37*, 83
Screw Driving 9, 46, 75, 90, 109
Screws 13, 26, 30, 31, 38, 50, 54, 62, 72
SEALING
Components 17*, 23, 31*, 41*, 41, 68, 77, 84
Equipment 86*
Materials 11, 12, 20*, 28, 32, 33, 75, 88, 91*, 92, 108
Separating ...3, 4, 66*, 86, 110, 112
Shafts, Flexible 30
Shaping 70
Shearing .29, 54*, 58*, 75, 85*, 93, 98
Sheaves 43
Shelving 33
Shipping Containers 65
Shoe Clips 94*
Shoes 22
Shovels, Power 72*, 99*
SIGNALING 17, 24, 27, 44, 58*, 58, 70*, 71*, 86*, 94*
Signs 8, 86*
Silicon 12*
Skids 1*, 8, 16, 36, 62, 66
Slings 81
Slip Proofing 104
Slitting 29
Snow Plows 72
SOLDERING
Equipment 15*, 18, 29, 42, 52, 78, 85*, 92, 95, 100*, 103*
Materials 37*, 49
Solenoids 5
Spirals, Conveyor 89
Spraying 11, 23, 67, 72, 79
Spreading 77
Sprockets 3, 40*, 48, 91, 105
Stampings 6, 25, 46, 92
STAPLING 39, 73, 77, 84, 107
Starters, Fluorescent 29*
Steels 19, 86*, 95
Stokers 71*
Stools 82, 89
Storing 4, 10, 11, 19, 33, 56*, 59, 70, 75, 85, 97*
Straightening 103*
Strainers 59
STRAPPING 19, 61, 87*
Stripping 33*, 40, 47, 81*
Stud Driving 110
Surplus 4
Sweatbands 40
Sweeping 57*, 112
Switches 7, 17, 62*, 63*, 63, 86*, 86, 105*

TABLES, MACHINE 36
Tackers 73
Tanks 10, 48*
Tapes 21, 26*, 28*, 31, 44, 50, 51*, 55, 75, 89*, 91*, 92
Tapping Heads 10, 81
Television, Industrial 70*, 94*
TESTING
Color 86*
Electric ..9*, 14*, 74, 99, 101*, 101
Electronic 28*, 30*, 79*, 86*
Flaw 86*, 104
Gas 86*
Laboratory 47*, 107*
Moisture 86*
Performance 26, 73*, 92, 102*
Spring 53
Temperature 40*, 71*
Thermistors 37
Thermometers 106
Thermostats 68*, 69, 75
Threading 10, 51, 81, 102
Timing 34, 55, 70, 77, 86*
Tires 30*, 99, 108
Tissues, Wiping 16
Torches 61, 92
TRACTORS 72, 92*
Trailers 45*
Tramrail 47
Transformers 10, 41, 67*, 88*
Traps 4, 13*, 21, 59, 60, 62, 89
Trolleys, Conveyor 14, 18
TRUCKS
Attachments 17, 34*
Hand 8, 10*, 16, 35, 36, 57, 62, 95*, 104
Hand Lift 65*, 92
Power 73, 92*
Power Lift ...11*, 14*, 23, 30*, 49*, 52, 63*, 63, 69, 74, 77*, 81*, 88*, 90, 96*, 97, 100*, 108*
Tops 93*
Tractor 72
Trailer 45*
Undercarriages 40
TUBES 43, 93, 108
Finned 110
Fittings 22*
Flexible 19, 42, 88*, 91
Tumbling 29, 46
Turbines 110

UNDERCARRIAGES 40
Unions, Pipe 32

VALVES
Blow 69, 75
Line 2*, 4, 5, 28, 39*, 78, 88*, 90*, 92, 107
Mixing 97, 111
Operating 18, 39, 50, 54, 103, 106, 111
Power Operated 14*, 60
Radiator 60
Regulating 33, 43*, 53, 59, 87, 100*
Relief 88*
Repair Parts 12
Repair Service 16*
Vent 66
Ventilating 8*, 22, 23, 30*, 31*, 33, 42, 57, 58, 64, 66, 71, 90, 92, 96, 98, 112
Vibrating 55, 88*
Vises ..11, 21, 36, 44, 55, 65*, 69, 88*

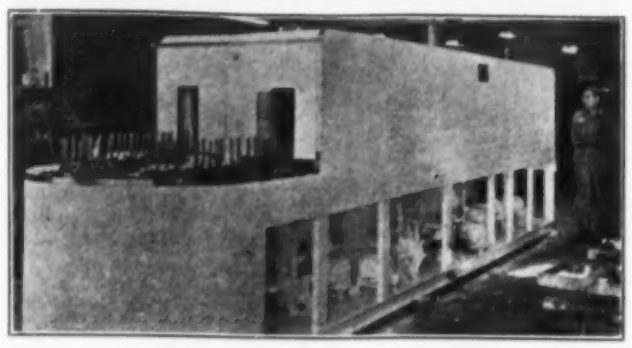
WASHERS 30, 46, 92
Water Proofing 28
Water Treating 18
Weighing 1*, 8, 37*, 73, 83
WELDING
Arc 88*, 110*
Controls 15
Lens 109*
Materials 30*, 46, 63, 88*
Positioners 73
Resistance 20, 52
Wheel Blocks 60*
Wheels 54, 99, 103*
Winches 31, 82, 83*
Winding 29, 83, 87
WIRE Cloth 94
Magnet 3
Parts 67
WIRE ROPE 5*
Fittings 106
Slings 81, 100
Wood Working 9*, 20, 72*, 88*, 91*, 109, 111
Wrapping 20*
Wrenches 19*, 22, 88*, 110

X-RAY 28*

If you write maker identify as **IEN - 7296**

CLEANING . . Washing machine for cylindrical work, also Bonderizes

Source: NIAGARA BOTTLE WASHER MFG. CO.
226 First St., Toledo 5, Ohio



Intermittent conveyor movement

Illustrated is a new adaptation of the company's washing machine in which cylindrical work is carried through an inverted position for internal and external washing, Bonderizing, rinsing and drying. The new unit has been designed and is now in operation on 120-mm. shells on which production is 180 per hour. A duplicate of the machine will handle 75-mm. shells at 360 per hour.

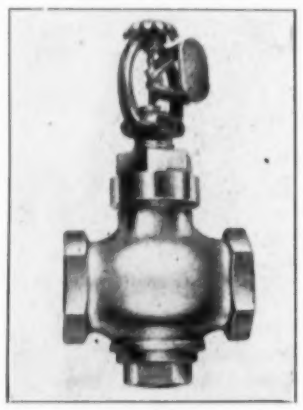
The assembly includes a chain conveyor operating in a closed circuit to employ both the going and return runs for the various cleaning and corrosion proofing operations. Overall length is about 20 feet.

The completed work is returned to the point of loading so one man can handle both functions. Pumping equipment, in connection with separate compartments within the machine, delivers the various fluids to wash the outside and also to "jet" into the work interior for a complete job.

If you write maker identify as **IEN - 7297**

VALVE . . Safety shutoff design stops flow when fuse link is melted

Source: VALCO CO.
1408-12 West St., Cincinnati 15, Ohio



Valco Automatic

New valve, normally open design, applies in a pipe line carrying fuel oil, gas or flammable fluid. It is held open by a fusible link in a head similar to a fire sprinkler. Excessive heat melts the link and releases a stainless steel spring below the valve seat. The spring snaps the valve stem and its integral disc to closed position.

A second design can be specified to open a pipe line that is held normally closed when ambient temperature rises to a predetermined point. This type applies in purge duty and in lines handling extinguishing fluids.

Seven sizes range from ½ to 2½ inches. Face to face measures 2½ to 6½ inches. Six fuse link heads release at 160 deg. F. minimum and at 600 deg. F. maximum. Installation can be made in any position.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 7298**

It can lift 25 tons* up to 5 inches is only 10 inches high, weighs 38 lbs.

The "Mighty Mite" (No. 2510-C-2)
**other sizes handle 10 to 50 tons*

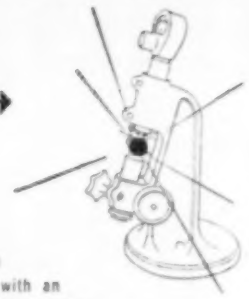
This precision made, ball-bearing journal jack is a favorite in industrial plants, construction and engineering companies, building movers, railroads and ship yards. The "Mighty Mite" is easy to carry, simple to operate, quickly raised and lowered, and is absolutely safe and dependable. It can be operated on any plane. A solid steel handle (1⅛" x 36") with pinch bar ends, which can be used as a pry bar, is furnished with each jack.

Call your distributor for complete details and information on prices and delivery or write the oldest and largest manufacturers of lifting jacks for bulletin AD12-M, The Duff-Norton Manufacturing Co., P.O. Box 1889, Pittsburgh 30, Pa. Canadian plant—Toronto 6, Ontario.

DUFF-NORTON JACKS
"Giving Industry A Lift Since 1883"

If you write maker identify as **IEN - 7299**

Pattern for Precision



Precision begins with an ideal at New Departure... an ideal to achieve the ultimate in perfection. Here, engineering, research and production follow this pattern for precision, and the products of their combined effort—both component parts and completed bearings—are subjected to countless tests and inspections. In fact, many of the instruments used in gauging the accuracy and precision of the bearings were designed and developed by New Departure engineers, and some are exclusive with New Departure. The sensitivity of this equipment is revealed in instances where the sphericity of the cups and cones is held within limits measured in millionths of an inch. And the tolerances for other parts... balls, seals and separators...must meet the highest standards. Remember... wherever ball bearings are best for the job, the best ball bearings are made by New Departure.

NEW DEPARTURE... DIVISION OF GENERAL MOTORS... BRISTOL, CONNECTICUT

If you write maker identify as **IEN - 7300**

Give fire half a chance and it will over-run you like a swarm of ants.
You must stamp it out anywhere it shows itself.
In the paint locker, power plant, garage.
That calls for a battery of strategically placed KIDDE Portable Fire Extinguishers.

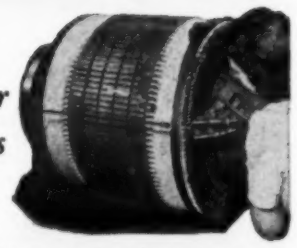
Kidde

Walter Kidde & Company
736 Main Street
Belleville 9, N. J.

If you write maker identify as **IEN - 7301**

What ELLIOTT COMPANY says about SILVER ALLOY BRAZING

"Experience and test have proven that silver alloy brazing produces far superior joints."



That's why ELLIOTT—one of the country's principal manufacturers of motors and generators—uses silver alloy brazing almost exclusively on D.C. machines, and on all damper and squirrel cage windings and most coil connections on A.C. units. The alloys primarily used by ELLIOTT are the low-temperature silver brazing alloys EASY-FLO and SIL-FOS—convincing evidence that these alloys best satisfy the metal joining requirements of electrical equipment.

FOR FULL FACTS GET BULLETIN 20
Write for a copy today.

HANDY & HARMAN 82 Fulton St., New York 38, N. Y.
Distributors in Principal Cities. In Canada: Handy & Harman of Canada Ltd., Toronto

If you write maker identify as IEN - 7302

Here's **IMPORTANT INFORMATION** for you about a

New Heat-Resisting Alloy

with many characteristics of **INCONEL®**

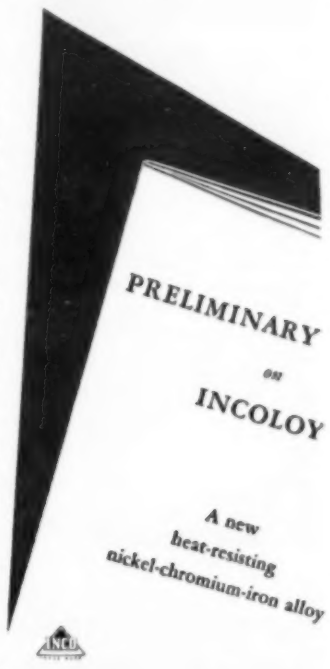
Incoloy (32 Ni.-21 Cr.) is the new high temperature companion alloy to Inconel®. Its use is permitted now in most applications where Inconel is restricted by an N.P.A. order.

"Preliminary Report on Incoloy" gives you the technical data you need to determine the suitability of Incoloy for your high temperature applications.

It covers the chemical composition and gives the tensile properties and hardness.

It also covers available information on expansion and oxidation resistance.

Don't put it off — circle the reply card key and send for your free copy today.



THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street, New York 5, N. Y.

If you write maker identify as IEN - 7303

Operation Quality

The men who make ANACONDA Magnet Wire are held strictly accountable for its quality. They meet daily. Their objective: to apply the most exacting program of quality control known to the industry today.

Many steady customers have used ANACONDA Magnet Wire for over 25 years . . . and in 80-90% of their windings. Its dependable quality helps them cut down incoming plant inspections. *Anaconda Wire & Cable Company, 25 Broadway, New York 4, N. Y.*

53365

ANACONDA® —TODAY'S HEADQUARTERS FOR MAGNET WIRE

Class A: ENAMEL • FORMVAR • NYFORM • NYLON
Class B: VITROTEX* Class H: SILOTEX* *Reg. U. S. Pat. Off.

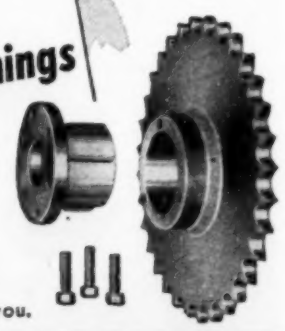
If you write maker identify as IEN - 7304

Browning SPROCKETS

OFF-THE-SHELF
READY-FOR-USE

A Time and Money Saver with

Split Taper Compression Bushings
• NO REBORING
• NO WELDING



Write for Catalog CD 101.

There's a Browning Distributor near you.

BROWNING MANUFACTURING COMPANY
MAYSVILLE • • • KENTUCKY

If you write maker identify as IEN - 7305

LAMINATING . . Contract service seals records in transparent plastic

Source: SCRAPBOOKS INC.
819-23 North Ave., Plainfield, N. J.

To your order

Record cards, important papers, diagrams, drawings, photographs can be sealed between sheets of rigid transparent Vinylite plastic in a new contract service. The plastic material protects against contact with moisture, oil, grease, ink, most chemicals. The faces can be cleaned with a damp cloth. The company is prepared to handle sheets measuring to 8 by 12 inches.

If you write maker identify as IEN - 7306

PAINTING . . Aluminum paint for outdoor surfaces, needs no primer

Source: JOSEPH DIXON CRUCIBLE CO.
165-9 Wayne St., Jersey City 3, N. J.

All weather protection

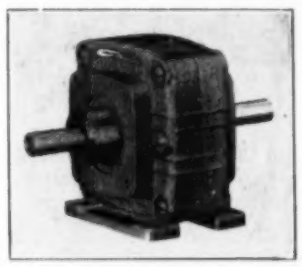
Dixon 117 is a new one-coat aluminum paint for all types of metallic and non-metallic structures. It is supplied ready to use after stirring. One gallon covers about 450 square feet. Application is with a brush or spray gun on dry surfaces that are free from rust, dust, dirt, cement, loose scale, grease, tar. Galvanized surfaces should be washed with a solvent to remove oils from any new surfaces. No thinner is normally required but turpentine substitute can be used.

The paint is composed of flake aluminum combined with a corrosion inhibitive pigment in a tough water repellent varnish type vehicle. It sets to touch in 3 hr., dries hard in 12 hours. Packaging is in quarts, gallons, 5 and 55-gal. containers as standard unit quantities.

If you write maker identify as IEN - 7307

DRIVE . . Speed reducer rates 0.1 hp., 600 available ratios

Source: METRON INSTRUMENT CO.
430-34 Lincoln St., Denver 9, Colo.



Factory lubricated

Hardened 48-pitch steel gears are employed in this new Series-10 miniature speed reducer. It mounts two 1/16-in. shafts in line with each other. Overall length is about 3⅞ inches. Housing dimensions are about 2½ by 2⅜ inches. The shafts ride on anti-friction bearings. Lubrication in the sealed housing is by splash action from a reservoir.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7308

SAFETY EQUIPMENT FOR ALL INDUSTRIES

for . . . CHEMICAL BURNS • CLOTHES ON FIRE

EYE WASHING FOUNTAIN
Leading industrial doctors advise immediate washing with plenty of running water as the best first aid treatment for any chemical in the eyes. Fountain works automatically by resting forehead on the valve and provides a constant stream of water to both eyes.

READY FOR INSTANT USE

Easily installed.

EMERGENCY SHOWER

Allows an individual to thoroughly drench *himself* with gallons of water by leaning against operating chain which attaches to floor.

Write for Bulletin No. 86 for further data on both items

IPCO *Safety Equipment for all Industries*
INDUSTRIAL PRODUCTS COMPANY
2801 N. FOURTH STREET • PHILADELPHIA 33, PA.

If you write maker identify as IEN - 7309

LUBRICATION ECONOMY

"LUBRIPLATE No. 630-AA is Practically a Universal Lubricant"

The Spokane Portland Cement Company of Irvin, Washington writes, "With the introduction of LUBRIPLATE No. 630-AA we reduced the number of lubricants we were using from ten to two. LUBRIPLATE No. 630-AA might almost be considered a *UNIVERSAL LUBRICANT*".

1. LUBRIPLATE reduces friction and wear

2. LUBRIPLATE prevents rust and corrosion

3. LUBRIPLATE is economical to use

Write today for case histories of savings made through the use of LUBRIPLATE in your industry.

LUBRIPLATE DIVISION
Fiske Brothers Refining Co.
Newark 5, N. J. Toledo 5, Ohio

The Different LUBRICANT!

DEALERS EVERYWHERE, consult your Classified Telephone Book

If you write maker identify as IEN - 7310

Top-liner **for Top Designers**

PUSH BUTTON **CASTELL LOCKTITE HOLDER** AND **CASTELL** IMPORTED LEAD

- One-hand clutch operation avoids touching lead, smearing fingers or drawing.
- Exclusive collet holds lead in bulldog grip, prevents it slipping back into holder.
- Clean, balanced, efficient for every type of drawing, sketching, rendering, coloring.

CASTELL Imported Lead

18 degrees, 7B to 9H—gives more prints — cleaner and sharper prints — than any other drawing lead. Lasts 25% to 33⅓% longer. Black or colored. Your Drawing and Art Supply Dealer has them.

CASTELL
the drawing pencil with the Master Degrees

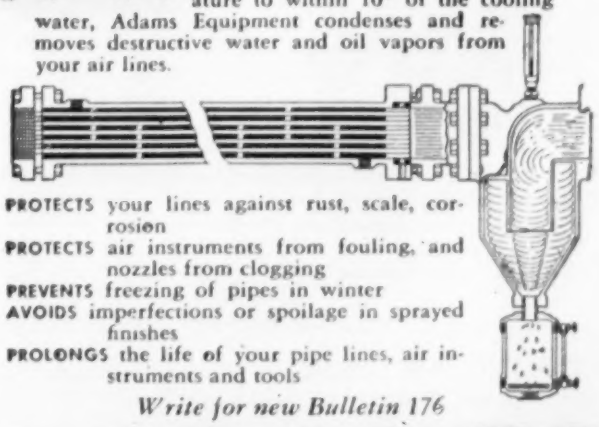
If you write maker identify as IEN - 7311

You Can be Sure of Clean Dry Air for your Compressed Air Tools

3500 Gallons
1 YEAR'S water extraction from air lines equipped with Adams Aftercooler and Cyclone Separator.

with ADAMS Aftercooler and Cyclone Separator

• Reducing compressed air temperature to within 10° of the cooling water, Adams Equipment condenses and removes destructive water and oil vapors from your air lines.



PROTECTS your lines against rust, scale, corrosion
PROTECTS air instruments from fouling, and nozzles from clogging
PREVENTS freezing of pipes in winter
AVOIDS imperfections or spoilage in sprayed finishes
PROLONGS the life of your pipe lines, air instruments and tools

Write for new Bulletin 176

R. P. ADAMS CO., INC. 219 E. PARK DRIVE BUFFALO 17, N. Y.

If you write maker identify as IEN - 7312

What do you know about the *Moly-sulfide* LUBRICANT?
A LITTLE DOES A LOT

You may have heard about a highly successful solid-film lubricant which is giving remarkable results in the shop and in the field.

In one 40-page booklet we have collected 154 detailed case-histories describing how difficult lubrication problems have been overcome by molybdenum sulfide. If you wish to be up to date about this solid-film lubricant, write for a free copy now.

THE LUBRICANT OF MANY USES

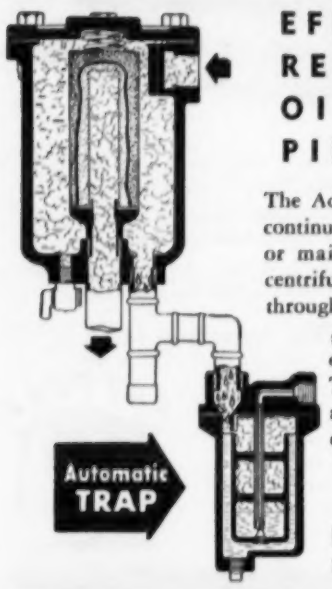
Moly-sulfide
A LITTLE DOES A LOT

SEND FOR THIS FREE BOOKLET TODAY

Climax Molybdenum Company
500 Fifth Avenue · New York City 36 · N.Y.

If you write maker identify as IEN - 7313

Poro-Stone Filtration
FOR COMPRESSED AIR



EFFICIENTLY REMOVES OIL, WATER, PIPE SCALE

The Adams *Poro-Stone Filter* gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation.

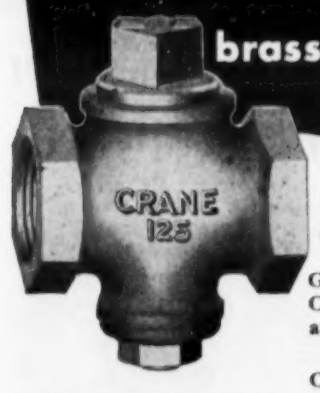
Write for complete data Bulletin 176

R. P. ADAMS CO., Inc.
219 E. Park Drive, Buffalo 17, N. Y.

ADAMS *Poro-Stone* AIR FILTER

If you write maker identify as IEN - 7314

CRANE *Quality*
brass steam cocks



125 and 250-POUND WORKING PRESSURES

Get your brass steam cocks from Crane and be sure of smooth operation with positive closure.

Big selection in the 125-Pound Class—two, three and four-way; square, flat and tee head; with and without check. Sizes up to 2-inch.

Extra strong 250-Pound steam cock of Crane Special Brass available only in two-way pattern with square head. Sizes up to 2-inch.

For full details on Crane Brass Steam Cocks ask your Crane Representative—or see your Crane Catalog.

CRANE CO., 836 S. Michigan Avenue, Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

CRANE *Everything for Every Piping System*

VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

Industrial Equipment News

PUBLISHED BY THOMAS PUBLISHING COMPANY

W. E. Irish — F. Morse Smith

W. E. IRISH
Editor and Vice-President

F. MORSE SMITH
Vice-President in Charge

J. W. MOSS
Managing Editor

E. M. RYAN
Assistant

A. J. GRANICK
Circulation Manager

R. B. COHEN
Production Manager

EDITORIAL ASSISTANTS
M. L. Welsh; A. J. Willis

CIRCULATION AND READER SERVICE ASSISTANTS
V. Feliciani; R. Lisak

BUSINESS DEPARTMENT ASSISTANTS
H. Benjamin; M. Casey; R. Irish; B. Sullivan

These are our local offices:

		Telephone
Atlanta (6)	3 Villa Dr. N. E.	VErnon 2969
Boston (8)	50 Beacon Street	LAfayette 3-4688
Chicago (4)	20 West Jackson Blvd.	HArrison 7-3730
Cleveland (14)	3145 Superior Avenue	CHerry 1-2221
Detroit (36)	115 Handy Road (G. P.)	TUxedo 1-1161
Indianapolis (20)	5909 N. Guilford Avenue	BRoadway 4422
Los Angeles (57)	2700 W. 3rd Street	DUnkirk 2-4889
Minneapolis (1)	P. O. Box 455	ORchard 5-8451
New York (1)	461 Eighth Avenue	OXford 5-0500
Philadelphia	P. O. Box 96, Upper Darby	GRanite 2-6500
Pittsburgh (22)	1020 Farmers Bank Bldg.	EXpress 1-0244
Toronto (1)	137 Wellington St., W.	EMpire 4-1421

THIS ISSUE 68,000 COPIES

Printed by Charles Francis Press, New York

Industrial Equipment News acts solely in a news reporting capacity for data supplied to it on new industrial developments.

Copyright 1953 by
THOMAS PUBLISHING COMPANY
461 Eighth Ave., New York 1, N. Y.

VOL. 21 JULY, 1953 No. 7

Free Enterprise

The tornado struck at 5:03 P. M. Tuesday, June 9. A few brief moments later Norton Company's new grinding machine plant had been damaged to an amount estimated at over a million dollars. No one at the plant was killed. Eight were injured. We quote from a news release by the company three days later—

"Worcester, Mass., June 12, 1953.—Production workers returned to their machines this morning only 62 hours after the tornado struck us. The remarkable job done by all our service and engineering departments and the grinding machine division employees made it possible to resume production at 80 per cent of normal.

"Painting, packing and erecting departments will be temporarily relocated at the old plant until permanent repairs are made. The Roger Sherman Company of Hartford, which moved the machinery into the new plant last fall, sent trucks and men from as far as Buffalo to aid us.

"Gilbane Construction Company of Providence, which built the plant, had workmen on the job within three hours to begin temporary and permanent repairs. A temporary wood roof was installed. Tarpaulins were hung over the gaping window frames. National Glass Company, Scrimgeour Electric Company, both of Worcester, and many of Worcester's contractors rallied around magnificently.

"The main hospital was kept open through the night to give first aid. The Norton Field House was made available as a shelter for the homeless. The company announced its readiness to help all employees, active or retired, and their families, who had suffered losses.

"Disaster Headquarters were set up in the personnel and employment department and each employee who had losses was requested to report there. Immediate cash assistance was made available to those in need. Boxes and packing material, for storage of personal effects, was gathered and Norton trucks were on call to carry them to homes to fill and return to Mills 1 and 2 for storage. The company also offered building materials to close in employees' houses, still standing, against the weather until permanent repairs can be effected. Insurance men were located in Disaster Headquarters to help make out reports and forms.

"Despite the interruption to employment and production, all Norton employees in the Abrasive and Machine Divisions will be compensated for time lost, up to eight hours per day for Tuesday, Wednesday, Thursday and Friday.

"Norton is providing space for the Vellumoid Company to set up its manufacturing operations until it can rebuild its own shattered plant. This company makes gaskets and packing materials. Although its plant was virtually demolished, it reports that it will be in production by the middle of next week. Work is already in progress to rebuild the Vellumoid plant as a completely modern, one story building."

There you have a first class example of free enterprise at work, without restrictions.

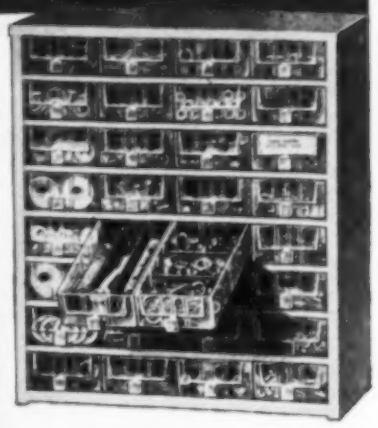
W. E. Irish.

If you write maker identify as IEN - 7315

HAS EVERYTHING!
HANDIEST CABINET EVER MADE FOR STORING SMALL ITEMS

"HAZ-BIN, JR."
SUCCESSOR TO "JIFFY" CABINETS
Contents visible! Lifetime-guaranteed, crystal-clear plastic drawers. Strong all-steel cabinet has individual drawer guides. Baked-on silver-gray hammer finish. Sent complete with index cards, removable lengthwise and crosswise drawer dividers, rubber feet.

32-DRAWERS (96 compartments)
15⅜" high
6" deep
12½" wide
$12.95



Lifetime Guaranteed CLEAR PLASTIC DRAWERS
Drawer size for all models—2-3/4" wide, 1-7/16" deep, 5-7/8" long.

Made in 9 Sizes:

J-128	128 drawer	(384 compartments)	$55.95
J-96	96 drawer	(288 compartments)	42.95
J-64	64 drawer	(192 compartments)	24.95
J-48	48 drawer	(144 compartments)	20.95
J-32	32 drawer	(96 compartments)	12.95
J-24	24 drawer	(72 compartments)	10.95
J-16	16 drawer	(48 compartments)	7.75
J-12	12 drawer	(36 compartments)	5.95
J-8	8 drawer	(24 compartments)	4.25

AKRO-MILS, INC.
Box 989-N
AKRON 9, OHIO

10 DAY FREE TRIAL! SEND NO MONEY!
SEND FOR FREE DESCRIPTIVE FOLDER

If you write maker identify as IEN - 7316

NO EMPTY BINS! OVERFLOW!

S-A TELLEVEL *Automatic* **bin-level control**

FOR BINS, HOPPERS, TANKS, ETC.

Provides continuous, dependable level control for bulk materials or liquids. Mount Tellevels near top and bottom or at various levels in bins, tanks, etc. Rising or falling material moves light float-ball stops or starts conveyor, elevator or pump. Normal duty, heavy duty and explosion-proof models.

MAIL COUPON TODAY FOR FULL DATA

STEPHENS-ADAMSON MFG. CO.
Standard Products Div.
231 Ridgeway Avenue, Aurora, Ill.
Please send me your Tellevel Controls Bulletin 11-0
NAME
COMPANY
ADDRESS
CITY ZONE STATE

If you write maker identify as IEN - 7317

SAVE up to 85%

WAR SURPLUS SAVINGS

NEW — INSIDE - OUTSIDE **VERNIER CALIPERS**
German made by one of Europe's leading specialists in precision tools. Measures inside-outside & depth in .001" to 6" in 1000ths and 1/10 mm to 150 mm in 10ths. 9.75
MICROMETERS — 0" to 1" in 1,000ths. Has lock-nut & ratchet ...ONLY — . . . 9.75

STAND MAGNIFIER
Handy stand magnifier with universal adjustments. Overall height: 6". Has powerful, clear magnifying lens. 1.49

BENDIX HYDRAULIC PUMP & MOTOR
Has 3-1/2 GPM capacity at 600 PSI. Motor is 1½ HP, 24V, D.C. Will operate on either 12 or 32V, DC current. Has built-in, relief valve adj. to 1500 PSI. This unit ideal for hyd. lifts, portable loaders, etc. 19.50

MAGNETIC BASE—INDICATOR HOLDER . . .
A time saver for precision checking. Magnetic base fits curved or flat surface. Has 45-50 lb. pull. Stainless steel 6½" rod mounted in ball socket permits universal settings . . 3.95
Note: We have complete line of instruments, depth gauges, telescoping measure, etc. WRITE TODAY

HYDRAULIC HAND PUMP
Operating pressure 2000 PSI. Cap., 1.5 cu. in per complete cycle . . . 12.75

GEAR HEAD MOTORS
Heavy duty, G.E. Gear Head motor. 2 HP, 24V. DC, 125 amp., reversible motor drives a reduction gear unit giving 36 to 1 ratio at take-off. Also will operate on 6 or 12 volts.
36 to 1 G.E. (106 shaft RPM)
28 to 1 Eclipse (130 shaft RPM)
40 to 1 Eclipse (110 shaft RPM)
10.95 EA.

HYDRAULIC ACCUMULATORS
A-2B FLOATING PISTON TYPE — 4" x 18" Built to stand 2,000 PSI 12.75
A-5 VICKERS — 10" dia. Ball type. Built to stand 2000 P.S.I. 24.75

ELECTRIC ACTUATORS
Hundreds of uses for any mechanical device needing controlled 2 way action. Opens, closes, raises or lowers doors — windows — gates — valves. CTU-2 — Feete Linear Actuator — 24 volt, DC, 8500 RPM, 1/6 HP — series wound motor. 4½" stroke in 13½ sec. Compression and tension loads up to 750 lbs. Adjustable micro switch for limits of travel. Overall lngth., retracted 41" 7.95
We also carry many more sizes and types of Actuators. Write today for information.

HYDRAULIC CYLINDERS
Gives 20,000 lb. thrust (push or pull) using 1500 PSI line pressure as obtained from our hydraulic pumps. Will produce up to 40,000 lb. thrust with 3000 PSI. Can also be used on low pressure air systems. 4" bore; 18" stroke; 30½" length. Ideal for roadform — shop machinery. 29.95

No. 3 HYDRAULIC CYLINDER
Double action. Bore is 1" — Shaft ⅝". Has stroke of 2½" to 4". Stroke can be adjusted with internal sleeve stops. Overall length is 8½". Will take 1500 lbs. continuous duty. 3000 lbs. intermittent. Will lift or push up to 1100 lbs. 5.75
We stock over 30,000 Hydraulic Cylinders, Valves, Pumps, Accumulators, Hand Pumps, Motors, Hose, etc. All at Money Saving Prices.

230 Pc. CATALOG
Amazing Values! 1000's of items for Mfgr., Mechanic, Sportsman, etc. Save on Machine Tools, Hydraulics, Pumps, Valves, Hand & Power Tools, Instruments, etc. Send for your copy today!

PALLEY SUPPLY CO.
3363 E. VERNON AVE.
IN-7
LOS ANGELES 58, CALIF.

Prices Subject to Change. Pay by M.O. or check. C.O.D. except for D&B Firms. ½ deposit with C.O.D.'s. All prices F.O.B. Los Angeles

If you write maker identify as IEN - 7318

6 GOOD REASONS FOR CHOOSING. . . LOVEJOY UNIVERSAL JOINTS

- ★ Concentricity guaranteed to .001.
- ★ Rivets ground flush with body for close quarter work.
- ★ Greater angle of operation with maximum bearing surface and strength.
- ★ No binding, backlash or inplay of pins.
- ★ Highest grade heat-treated alloy steel.
- ★ Exceed Armed Forces rigid requirements.

Available in 13 sizes. Diameters ½" to 4". Lengths 2" to 10⅝".

WRITE FOR CATALOG TODAY

LOVEJOY FLEXIBLE COUPLING CO.

5014 W. Lake Street Chicago 44, Illinois

Also Mfrs. Lovejoy Flexible Couplings and Lovejoy Variable Speed Transmission

If you write maker identify as IEN - 7319

Recommended

FOR LONG DEPENDABLE SERVICE

SEALMASTER BALL BEARING UNITS

- Pillow Blocks
- Take-Up Units
- Flange Units
- Cartridge Units
- Flange Cartridge Units

● PERMANENTLY SEALED SealMasters' patented centrifugal seal permanently seals out dirt—seals in lubricant—increases bearing life and reduces maintenance problems.

WRITE FOR CATALOG No. 845

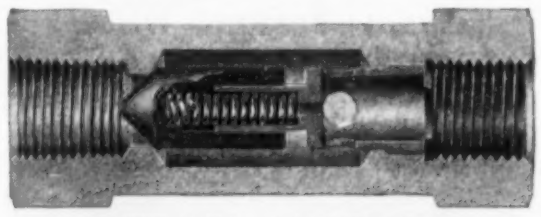
Bearing Division

STEPHENS-ADAMSON MFG. CO.

Tellevel—Bin Level Controls · Car Loaders · Car Pullers · Winches · SealMaster Ball Bearings · Variable Speed Reducers · Saco Speed Reducers

231 RIDGEWAY AVE., AURORA, ILL.

If you write maker identify as IEN - 7320



CHECK VALVES

- **ONE PIECE CONSTRUCTION**
  No welds or brazes to crack or fail—
  Available in ⅜," ½" ¾," 1" NPT lines sizes
- **NYLON POPPET**
  Assures leak proof trouble-free service
- **LIGHT WEIGHT**
  Aluminum body and nylon poppet reduce overall weight and increase ease of handling during installation
- **LOW PRESSURE DROP**
  Minimum pressure loss thru valve at rated flow

Write for illustrated circular C

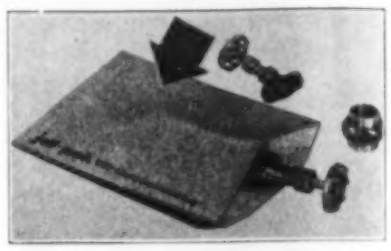
WATERMAN ENGINEERING Company

725 CUSTER AVENUE
EVANSTON, ILLINOIS

If you write maker identify as IEN - 7321

PACKAGING . . Cushioned kraft bag, VCI lined to stop parts corrosion

Source: JET-PAK INC.
861-877 Summer Ave., Newark 4, N. J.



Eliminates greasing

Metal parts, made of aluminum, iron, steel for instruments, electronic and electrical equipment, vehicles, engines, hardware, valves, can be packaged dry for shipment and storage without danger of corroding in this new VCI-Lined cushioned bag. It is made of moisture-resistant kraft with cushioning material sealed between the inner and outer walls. The inner wall is lined with the corrosion inhibiting material. It emits a dry protecting vapor that surrounds and blankets the bag contents.

Parts can be stored for long periods without danger of failure in the vapor protection. The vapor is non-toxic, non-irritating and will not burn. The cushioning protects against rough handling. Seven bag sizes range from 7¼ to 12 in. to 14¼ by 20 in. to handle a variety of products.

If you write maker identify as IEN - 7322

FILTERING . . Fiber bonded felt designed to apply as a filter mat

Source: AMERICAN FELT CO.
Glenville & Thomas, Glenville, Conn.

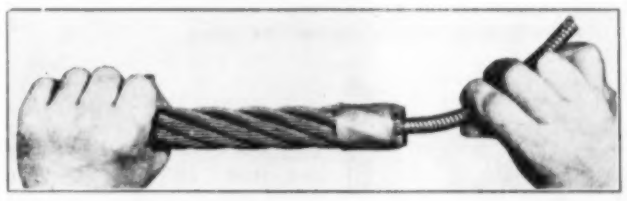
Dynel Windsor filter felt

New Dynel fabric employs a multi-ply carded construction to provide a filter medium or cake supporting mat in a filter press or a vacuum filter. It will collect small particles, is stable to mold bacteria or fungi and resistant to attack by acid or alkaline solutions. It wets out readily and has good cake release characteristics. The company has prepared a Fact Sheet and will send it to you, on request, with a sample.

If you write maker identify as IEN - 7323

WIRE ROPE . . Spring core design for cranes, elevators, hoists, shovels

Source: JONES & LAUGHLIN STEEL CORP.
455 Gateway Center, Pittsburgh 30, Pa.



Center is lubricant reservoir

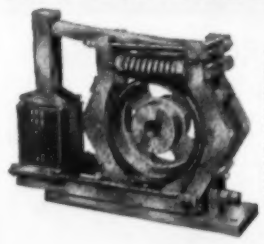
Spring center designates a new wire rope in which coiled spring wire forms the core. The spring is resistant to crushing. It is completely flexible. It forms an internal passage that can be filled with lubricant. The rope is available from stock in ⅞, 1, 1⅛ and 1¼-in. diameters. It can be supplied on order in other sizes between ⅜ and 2 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

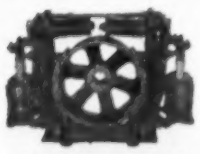
If you write maker identify as IEN - 7324

TROMBETTA SOLENOID CORP.

331 N. MILWAUKEE ST. • MILWAUKEE 2, WIS.



SINGLE SOLENOID
SB-373 BRAKE
10" DIA. 5" FACE
475 FT.-LBS.
CONTINUOUS DUTY



DOUBLE SOLENOID
SB-388 BRAKE
21" DIA. 10" FACE
2400 FT.-LBS.
CONTINUOUS DUTY

SB-300 LINE OF BRAKES

Sizes 2½" dia. x 1½" face to 72" dia. x 14" face, continuous rating range from 3 ft.-lbs. to 24,000 ft.-lbs.

8 SPECIAL FEATURES

(1) Operated by long stroke, high power large capacity solenoids. (2) Only 50% of solenoid stroke is used to release the brake. The extra 50% is reserve to take care of lining wear. (3) They can be used for stopping as well as for holding loaded motors. (4) In double solenoid type, one solenoid operates the brake and the other is a spare assuring uninterrupted operation. (5) They are available for all voltages and frequencies alternating current. (6) Also for all voltages direct current series or shunt connections. (7) In shunt operation no series resistances, no discharging resistances are necessary. (8) They are available with oil immersed and explosion proof solenoids.

NINE LINES OF SOLENOIDS, RECIPROMOTORS AND SEMOTORS

See McGraw Hill's Prefiled Electrical Catalogs. Write for Additional Information.

If you write maker identify as IEN - 7325

FAR-INFRARED HEAT

that's easily controlled, infinitely variable!

CHROMALOX *Electric* **RADIANT HEATERS**

Your Low-Cost Answer to Production Line Heat!

Production line heating tunnels and banks can be easily made right on the job with versatile Chromalox Electric Heaters for drying, baking, dehydrating, curing and other applications. Quickly and easily installed units allow you to "dial" the exact temperatures you require every time—all the time! All-metal construction insures against damage from shock, hard knocks, water, etc., and eliminates contamination hazards.

WRITE FOR BULLETIN CS-604

It gives details on Chromalox Electric Radiant Heaters and shows how they reduce costs and increase production in your plant.

Industrial Div., EDWIN L. WIEGAND CO., 7505 Thomas Blvd., Pittsburgh 8, Pa.

See Chromalox Electric Heaters Advertisement, Page 11

CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

If you write maker identify as IEN - 7326

BRADY QUIK-LABEL PIPE MARKERS

FAST... POSITIVE IDENTIFICATION

For a few cents per pipe, you can equip your entire plant with Brady QUIK-LABEL Pipe Markers. You can get a uniform system of pipe identification based on A.S.A. Standard A13. Names of materials printed in large black letters on correct A.S.A. background colors — no hand stenciling, painting, or hard to remember codes. Anyone who can read can tell at a glance the pipe contents and direction of flow. Over 235 different markers and direction arrows in stock. Specials made to order.

Brady QUIK-LABELS stick without moistening—applied in a jiffy, Silicone Plastic treated to resist dirt, grime, moisture—for indoor or outdoor service.

Brady Pipe Markers leave no room for doubt . . . or TRAGEDY.

WRITE FOR Free SAMPLES AND USEFUL CATALOG

DISTRIBUTORS IN OVER 125 PRINCIPAL CITIES

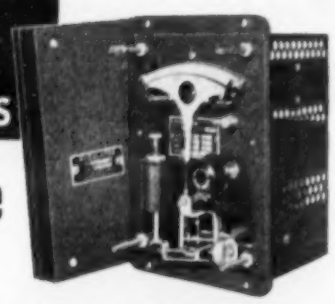
MANUFACTURERS OF SELF-STICKING PRODUCTS

W. H. BRADY COMPANY

734 W. GLENDALE AVE., MILWAUKEE 12, WIS.

If you write maker identify as IEN - 7327

Rocking Contact
V-00 & 221 VOLTAGE REGULATORS



Fast...Accurate Response ON SMALL GENERATORS

Rocking Contact voltage regulators are available in two types for use on small ac generators with direct-connected exciters — TYPE V-00 for generators to 157 kva maximum at 3600 rpm; TYPE 221 for generators to 438 kva maximum at 3600 rpm.

Rocking Contact voltage regulators operate directly in the exciter field circuit to give fast response to voltage changes. No sluggish, time-wasting relays. No vibrating or sliding contacts to wear out. A small movement of the *Rocking Contact* sector over a curved commutator covers the entire regulating range

Write for Bulletin 14B6143A, Allis-Chalmers, Milwaukee 1, Wis.

A-4048

Rocking Contact is an Allis-Chalmers trademark.

Movement of a fraction of an inch changes the field resistance from "all out" to "all in" position in very fine steps.

ALLIS-CHALMERS

If you write maker identify as IEN - 7328

METZGAR GRAVITY CONVEYORS

16 YEAR'S Continuous Service

..at no maintenance cost because Metzgar carries the load on these sturdy bearings — ¼" steel balls (Hoover or equal) spinning in hardened labyrinth ball races.

Standard in all Metzgar wheel and roller gravity Conveyors.

Write for descriptive folder.

METZGAR CO.

MFGRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES & REEL DOLLIES

417 Douglas, N. W.

GRAND RAPIDS 4, MICH.

If you write maker identify as IEN - 7329

AMERICAN MONORAIL

Free Moving Cranes

MANUAL-ELECTRIC

American MonoRail cranes offer all the advantages of lightness, easy movement, strength, live load capacity, interlocking and safety devices for loads up to 5 tons. Cranes are available for manual or power operation controlled from cab or floor.

SEND FOR BULLETIN C-1

THE AMERICAN MONORAIL CO.

13111 ATHENS AVENUE • CLEVELAND 7, OHIO

If you write maker identify as IEN - 7330

How to Build Your Own Overhead Conveyor

This 28-page booklet tells you in detail how to layout your overhead monorail, power conveyor, select all the parts needed and erect it in your plant. All elements are fully illustrated with sizes and capacities given.

WRITE FOR YOUR COPY TODAY

Mechanical Handling *Systems, Inc.*

4605 NANCY AVE. • DETROIT 12, MICH.

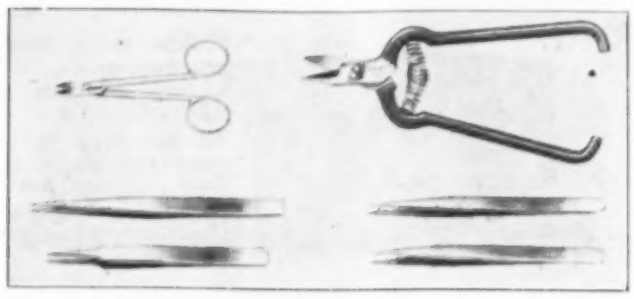
Offices in Principal Cities

In Canada: Canadian Mechanical Handling Systems, Ltd.

If you write maker identify as IEN - 7331

ASSEMBLING . . Precision scissors, snips, tweezers for delicate work

Source: HENKEL-CLAUSS CO.
201 S. Prospect Place, Fremont, Ohio



Instrument quality

Electronic tubes, circuits, incandescent tubes, delicate instruments, apparatus, appliances, components are representative products that can use these new precision hand tools in assembly and inspection operations.

The scissors measure 4 in. in length and are nickel plated. Both blades can be plain or one can be serrated. The filament snip has polished blades, red enameled handles and measures 6½ in. in length. The tweezers range from 4¼ to 4⅞ in. in length. They are available with plain or serrated points and are chromium plated or supplied in bronze or stainless steel.

If you write maker identify as IEN - 7332

CLEANING . . Oil base liquid improves fabric laundering properties

Source: PENNSYLVANIA REFINING CO.
851 Butler Savings & Trust Bldg., Butler, Pa.

Ask for Bulletin 553

Washoil is a new oil base liquid for industrial and institutional laundering. It is introduced into a washing machine, after the final rinse, to treat the fabrics being laundered. The washer is run for about 10 min. when practically all of the oil will have been absorbed into the material. The company has prepared a pocket booklet describing the material and the results to be obtained from its use.

If you write maker identify as IEN - 7333

BORING . . Adjustable head offsets 1¼ in. tool shank to ⅝ in.

Source: LAST WORD SALES CO.
18502 Mt. Elliott, Detroit 34, Mich.

Patent 2276462

New offset mechanism has been developed for the Samson Chuck boring head previously described IEN-8756-51. The dial has been made larger and the micrometer screw has been changed for precision locating and holding. The head measures about 4¾ in. in diameter and is available with a taper shank, a No. 40 or No. 50 milling machine taper, or a straight shank. It can be threaded also for spindle mounting.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7334

Here's An Idea That May Save You Thousands of Dollars!

Buy Truscon Ready-Made Steel Buildings Assembled for Your Individual Needs

Standardization and streamlining of production are the keynote to efficient, profitable operation. Meet today's needs for adequate manufacturing and storage facilities with Truscon Ready-Made Steel Buildings. They are made by the nation's largest manufacturer of steel building products. These standard-unit, prefabricated structures can be combined in innumerable ways to form buildings for many purposes. Features include fire resistance, insulation, permanence, ease and speed of erection, low upkeep, low cost and high investment value. They can be dismantled and re-erected quickly and easily on any site of your selection.

Truscon will cooperate with your local contractors for the speedy erection of these "any-purpose" Truscon Steel Buildings.

FREE BOOK! Write for free booklet on Truscon Ready-Made Steel Buildings. It shows actual installations and mechanical details, to help you develop your plans.

TRUSCON® STEEL DIVISION 1094 Albert Street
REPUBLIC STEEL CORPORATION Youngstown 1, Ohio

If you write maker identify as IEN - 7335

For 30 Years— EXPERTS

Represented nationally in principal cities.

DAYTON ROGERS *Manufacturing Company*

MINNEAPOLIS 7, MINN.

If you write maker identify as IEN - 7336

NOW — Precision Balls of Synthetic Sapphire

These balls of synthetic sapphire, polished to within 20 micro-inches of sphericity, are resistant to wear, heat, and corrosion. In many applications they need not be lubricated.

Available in 1mm, 1/16 inch, ⅛ inch, and ¼ inch sizes, and in three surface finishes.

PROPERTIES

Coefficient of Friction	0.140
Hardness (Knoop)	1525-2000
Dielectric Constant	7.5-10
Modulus of Rigidity	21.5-27.5 x 10^6 psi
Thermal Coefficient of Expansion at 50°C (per°C x 10^6)	5.0-6.7
Chemical Resistance	Unaffected by acids, dilute alkali.

Call or write any LINDE office for information on these balls or the other forms of synthetic sapphire.

LINDE AIR PRODUCTS COMPANY
A Division of Union Carbide and Carbon Corporation
30 East 42nd St. UCC New York 17, N. Y.
In Canada: Dominion Oxygen Company, Limited, Toronto

MORE SPEED — MORE SUPPORT

THREE BALL-BEARING WHEELS SUPPORT THE SAW BLADE

PADDOCK BAND-SAW GUIDES

SOLVE YOUR BIGGEST BAND-SAW PROBLEM

MODEL 20 at right shows section cut out to reveal the V-shaped groove in the thrust wheel. This holds back of blade, while two front wheels support the sides of the blade.

Designed to work above or below the saw table, PADDOCK GUIDE NO. 20 gives greater ease and better adjustment to thrust wheels for ⅛ to 1" wide blades. Every wheel the same size . . . interchangeable to any position on the guide. SAVES BLADE BREAKAGE. SPEEDS UP PRODUCTION. Pays you back many times its cost year after year.

Write for Complete Information.
Give size, make of machine on which guides will be installed.

PADDOCK TOOL CO.
Guide Makers Since 1920
1418 Walnut Street Kansas City 6, Mo.

Paddock BALL-BEARING **BAND SAW GUIDES**

If you write maker identify as IEN - 7337

Do you use barrier wraps?
Then you need the new

DERBY BW
BARRIER WRAP MEASURING DISPENSERS

The Derby BW Dispensers eliminate the slow, messy, expensive Barrier Wrap handling problem and provide a substantial saving in time, labor and material. Large rolls may be converted into the exact widths and lengths desired in one single operation.

Available in models to accommodate 4", 6", 8", 12" and 14" rolls and equipped with Universal Slitter to deliver a variety of desired widths and definite lengths.

For further information write Dept. IF

DERBY SEALERS, INC. DERBY, CONNECTICUT

If you write maker identify as IEN - 7338

These toggle switches actually operate under water! They also function perfectly from 65° below zero to 165° above . . . defy salt spray . . . and withstand shock and vibration. The switch body is encased in a molded rubber compound specially developed to meet military requirements. Waterproof lead wires are "heat-sealed" to this case, have waterproof connectors when required. Ratings from 20 to 200 amps., toggle setups for momentary ON or OFF and stationary ON or OFF. One or two-hole mounting. Ideal for safe, dependable operation of power or machine tools, vehicles, implements, etc., or in hazardous locations. Extensive line of *standard* models available, "specials" to fit your application. Send problem details for engineering recommendations and a prompt quotation.

Riverside MANUFACTURING AND ELECTRICAL SUPPLY CO.

10215 MICHIGAN AVENUE • DEARBORN, MICHIGAN • PHONE TIffany 6-6800

WIRING HARNESSES AND ASSEMBLIES • CORD SETS • HEATER AND EXTENSION CORDS • ELECTRICAL SWITCHES • RELAYS • MOLDED RUBBER PRODUCTS

If you write maker identify as IEN - 7339

To minimize spalling and mushrooming, "Style OE" Hammers are machined of Mecco Safety Steel, carefully heat treated in sizes to meet your needs. Available in the right weight for every application.

Write for complete data

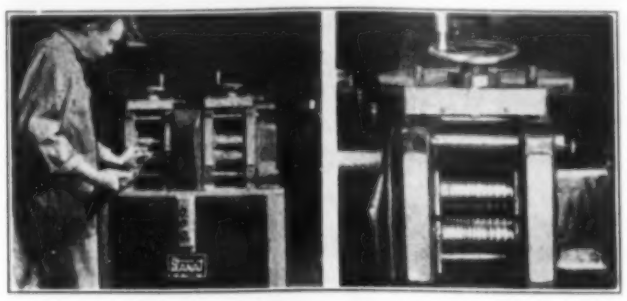
Mecco SAFETY MARKING TOOLS **M.E.CUNNINGHAM CO.**

1039 CHATEAU STREET, PITTSBURGH 33, PA.

If you write maker identify as IEN - 7340

ROLLING . . Miniature mill, standardized, flat or grooved rolls

Source: STANAT MFG. CO.
47-30 37th St., Long Island City 1, N. Y.



With hand wheel screw-down

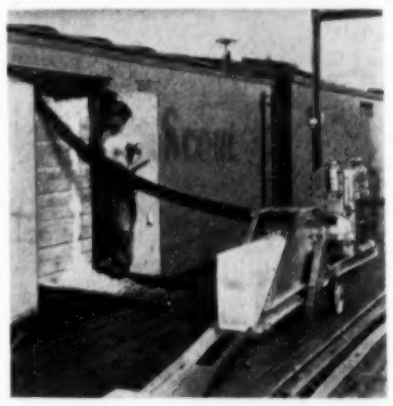
Rolling mills with 3 or 4-in. rolls have been added to the company's line of miniature equipment in standardized design with interchangeable parts to meet given requirements. Two 4-in. machines are shown mounted side by side to the left in the illustration. A typical grooved roll assembly, in the 3-in. size, is shown to the right. The machines can be assembled in sets for roughing and finishing operations or for hot and cold rolling.

Construction includes housings made of Meehanite metal with enclosed bronze bearings. The 4-in. mill is available also with roller bearings and can be arranged for water cooling. The rolls are usually supplied in alloy tool steel hardened and ground. Unhardened rolls are available into which the customer can engrave patterned surfaces. Drive connects to the lower roll and from it to the upper one through hardened helical gears.

If you write maker identify as IEN - 7341

REFRIGERATING . . Portable machine to ice refrigerator cars and trucks

Source: LINK-BELT CO.
305-9 N. Michigan Ave., Chicago 1, Ill.



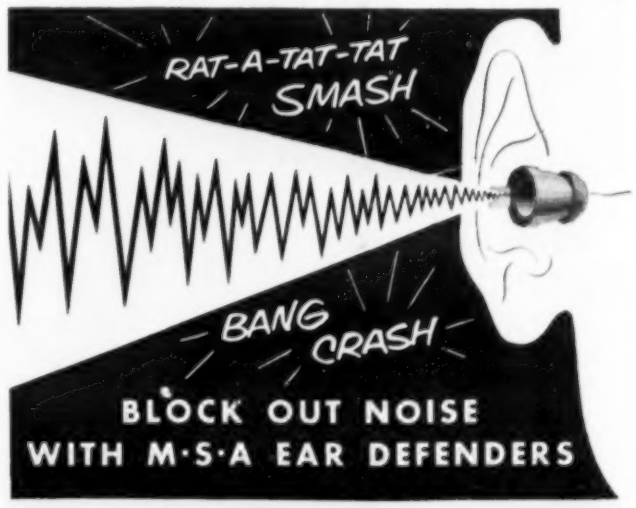
Ask for Bulletin 2443

Series 500 is a new design of combination ice crusher and slinger. It takes 300-lb. cakes of ice and is able to crush and deliver five of these cakes per minute. The crushed ice is directed through a flexible hose over and between tiers of containers to blanket them.

The machine is driven by a gasoline engine or an electric motor. It is equipped with a loading ramp and chain conveyor to carry the cakes of ice from the dock to the crusher. The loading ramp hinges out of the way when it is not in use. Overall dimensions, in assembly with a gasoline engine, are about 16½ ft. in length by 2 ft. in width by 4½ ft. in height. Assembly with a 40-hp. ball bearing motor, for operation on 220/440 volt 3 phase ac., measures about 15 by 3 by 4 feet.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7342

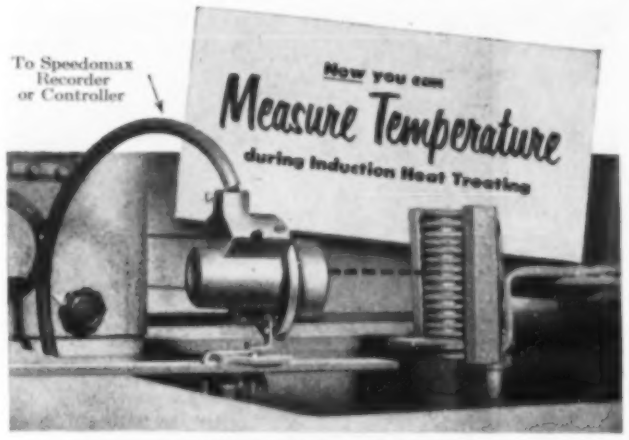


Here's the simple, inexpensive solution to the problem of loud, crashing industrial noise which often sets the stage for production slow-downs and fatigue. Scientifically designed MSA Ear Defenders keep harmful noise *out;* allow speech, warning signals, and phone conversation *in*. Soft, pliable rubber construction gives perfect closure of ear canal, provides maximum comfort. Three sizes assure fitting every individual. Write for bulletin.

Plastic carrying case fits in pocket, keeps Ear Defenders clean and always handy for use.

MSA SAFETY EQUIPMENT HEADQUARTERS **MINE SAFETY APPLIANCES CO.**
201 N. Braddock Ave., Pittsburgh 8, Pa.
At Your Service: 83 Branch Offices in the United States & Canada

If you write maker identify as IEN - 7343



This Rayotube detector is sighting on the work between coils of the heating unit.

• Mounted only 4 inches from an induction heating coil, this new small target Rayotube detector can focus on an opening as small as 0.1 inch between turns of the coil, and through this opening sight on the hot surface of the work.

Teamed with a Speedomax instrument it enables you automatically to measure, record and—if desired—control work temperature during the entire heating cycle.

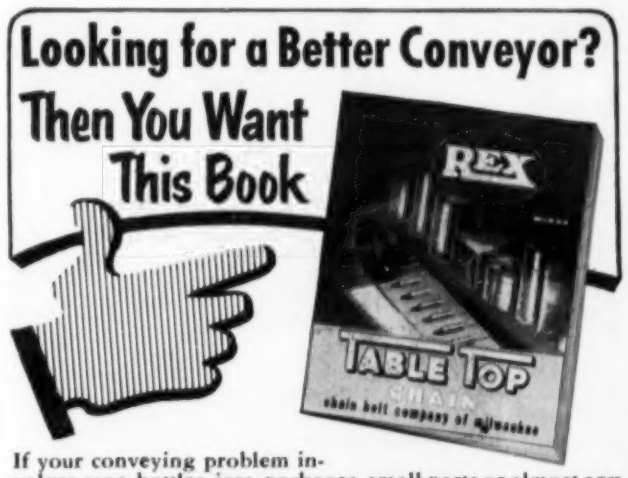
If you'd like more details just write us at 4905 Stenton Avenue, Philadelphia 44, Pa.

LEEDS & NORTHRUP instruments • automatic controls • furnaces

Jrl. Ad. NS2(1)

If you write maker identify as IEN - 7344

Looking for a Better Conveyor? Then You Want This Book



If your conveying problem involves cans, bottles, jars, packages, small parts or almost any other small unit, you'll want this new book on Rex TableTop® Chain. The book explains all the advantages of TableTop's simplicity...how it reduces maintenance...speeds production ...helps cut conveying costs.

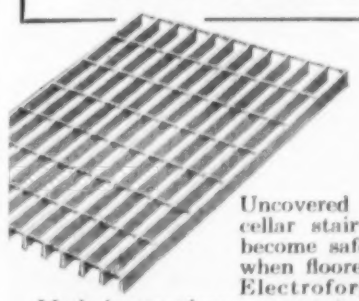
There are also sections on two other great conveying chains—Rex FlexTop® and Baldwin-Rex PlateTop®. Just use the coupon to send for your free copy today.

REX® Chain Belt COMPANY OF MILWAUKEE

Chain Belt Company 53-102
4675 W. Greenfield Avenue
Milwaukee 1, Wisconsin
Please send me TableTop Chain Bulletin 53-60.
Name.....
Company.....*Dept*.....
Address.....
City.....*State*.....

If you write maker identify as IEN - 7345

Make those **OPEN SPACES**
SAFE and USABLE
with this unique, one-piece
OPEN STEEL FLOORING



SILENT!
STRONG!
SECURE!

Uncovered pits, light wells, cellar stairways, etc. quickly become safe and usable areas when floored with Blaw-Knox Electroforged Steel Grating. Made in one piece . . . no nuts or bolts to rattle or lose. Provides safe footing even when wet or greasy and lasts indefinitely. Admits maximum light and air. Furnished in any shape, cut to fit. Just send dimensional sketch of area to be covered and we will forward price by return mail.

BLAW-KNOX COMPANY, *Grating Department*
BLAW-KNOX EQUIPMENT DIVISION
2050 Farmers Bank Building, Pittsburgh 22, Pa.

ELECTROFORGED® STEEL
BLAW-KNOX GRATING

If you write maker identify as IEN - 7346

Thomas JAK-TUNG One-Handling System

TRUCKS & STORES LOADS WITHOUT UNLOADING

This double-purpose truck is designed for use with power truck or hand lift. When loads are to be moved long distances, a power lift platform or fork lift truck is used. For short hauls, spotting of loads and handling in close quarters, the JAK-TUNG Lift Unit is best. Either way loads can be trucked and stored without costly rehandling. Available with chemical resistant tires and "Job Suited" superstructures.

Send for free literature.

THOMAS TRUCK & CASTER CO.
306 Mississippi River, Keokuk, Iowa

If you write maker identify as IEN - 7347

THEY GRIND--NOT JUST RUB!

The RPM's stay up while grinding . . . not only when the grinder runs idle.

It is an established fact that surface speeds must stay up to approximately a mile a minute if you want to grind . . . not just rub. Every mechanic knows this, but an inexperienced buyer may order tools that maintain proper grinding speeds only when running idle. The speed of Kipp air grinders drops but slightly when put to work. That means better work . . . longer wheel life.

MADISON-KIPP CORP.
224 Waubesa St., Madison, Wis., U.S.A.

Write for KIPP Air Tool Catalog AT 3006

If you write maker identify as IEN - 7348

DOWNS SAFETY GRABS ...GRIP ANYTHING!

FOR CRANES AND HOISTS...
Material lifting equipment will do more work–faster, easier–when you have the proper "grabs" for every type of load. No matter what your hoists are handling–pipe, rails, drums, plate or structural steel, stone, timber, boxes or odd-shaped objects of any description–there's a DOWNS *Safety* Grab that will enable you to do it faster, easier *and* safer. Learn new short cuts to greater efficiency for YOUR plant with DOWNS' *complete line* of *Safety* hoist grabs!

Write for Free Illustrated Catalog 200 Today!

DOWNS CRANE & HOIST CO.
MECHANICAL ENGINEERS
540 W. VERNON AVENUE • LOS ANGELES 37, CALIF.

If you write maker identify as IEN - 7349

SANDING . . Portable electric tool weighs 5 lb., universal motor drive

Source: MALL TOOL CO.
7725 S. Chicago Ave., Chicago 19, Ill.

110 volt operation

Oscillating mechanism and its universal driving motor are enclosed in an aluminum alloy housing in this new Orbit sander. The tool can be applied on flat, curved, horizontal or vertical surfaces. Control centers at a trigger switch handle. A knob is provided at the front for two-hand operation. The sanding pad is driven in an orbital ¼-in. movement at 4,500 cycles per minute. The pad is equipped with clamps for quick change of the abrasive facing when it becomes worn.

If you write maker identify as IEN - 7350

POLISHING . . Abrasive rubber made in blocks, rods, sticks, wheels

Source: WELDON ROBERTS RUBBER CO.
N. 13th St. & 6th Ave., Newark 7, N. J.

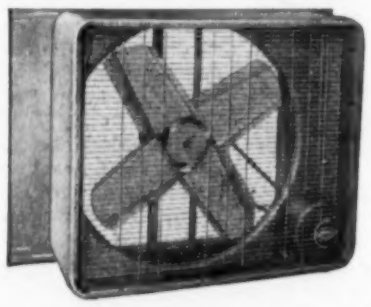
200 items in line

Tool marks can be polished out of forged aluminum, weld marks can be smoothed, stainless steel can be polished and burred with the new Series BL rubber blocks, rods, sticks, wheels. The line includes three grades of abrasive dispersed in the rubber. Wheel sizes range from ½ to 6 inches. They can be shaped to contour.

If you write maker identify as IEN - 7351

VENTILATING . . Reversible fan mounts in window, rates 4,000 cfm.

Source: SCHWITZER-CUMMINS CO.
1123-27 Massachusetts Ave., Indianapolis 7, Ind.



Wire guard faces

Model R-24 is a new window fan with a belt connected motor and reversing switch to provide two speeds in either direction at 425 and 630 rpm. Ratings are 2,700 and 4,000 cfm. at the two speeds. The housing measures 31 by 11 by 28½ inches. Width can be adjusted between 31 and 41 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7352

POWER CABLE
rubber-type for circuits to 15,000 volts

FREE BOOKLET
tells uses and advantages of General Electric's Super Coronol*-Geoprene nonmetallic power cable

Initial cost is *low*—installation cost is *low*—maintenance and replacement costs *remarkably low*. G-E Super Coronol-Geoprene power cable gives long service because both insulation and jacket are made from slow-aging materials.

Super Coronol-Geoprene cable permits either greater current-carrying capacity or smaller conductor size than has heretofore been possible with high-voltage rubber-type cable.

This cable is designed for continuous operation at copper temperatures of 85 C to 8,000 volts, and of 80 C in the 8,001 to 15,000 volt range.

For your copy of the booklet, *Super Coronol-Geoprene Power Cable*, write to Section W89-742 Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

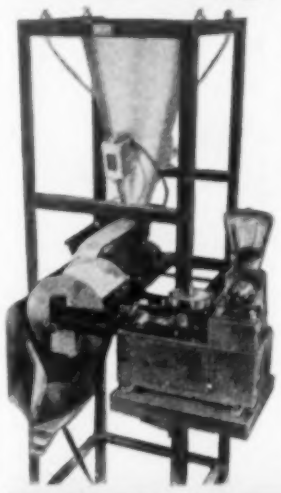
**Registered Trade-mark General Electric Company*

You can put your confidence in—

GENERAL ELECTRIC

If you write maker identify as IEN - 7353

NEW EXACT WEIGHT Net Weighing Machine . . .



Here is a NEW moderately priced, automatic weighing machine featuring fine sensitivity and accuracy . . . *visual indicator*, not present in most net weighing units . . . *fully automatic operation* . . . *Speed*, with very free-flowing materials (½ lb. to 1 lb. quantities), 25 weighments per minute . . . *Accuracy* down to ½ gram with free flowing materials. Speed and accuracy for heavier weighments and products harder to feed determined by product test . . . *Flexibility*, weighments from 1 gram to 10 lbs. with model shown . . . *Mobility* is possible if unit is mounted on castors for service from several hoppers . . . *Easy maintenance* due to elimination of unnecessary housings and enclosures. Write for details as to construction and what equipment comprises.

EXACT WEIGHT SCALES

BETTER QUALITY CONTROL
BETTER COST CONTROL

THE EXACT WEIGHT SCALE COMPANY
932 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W., Toronto 18, Canada

If you write maker identify as IEN - 7354

STONEHOUSE SIGNS FOR ACCIDENT PREVENTION

SAVE The WORKER and you SAVE PRODUCTION

Stonehouse Signs are made in accordance with "American Standards Ass'n Specifications for Accident Prevention Signs"...the only authentic standards.

Hundreds of different stock-worded signs for prompt shipment • Special worded Accident Prevention signs also produced to your specifications.

Our complete Catalog No. 9, 64 pages, full color, free on request.

Stonehouse SIGNS, inc. MANUFACTURERS
Stonehouse Building · 842 Larimer
Denver 4 Colorado
"Signs Since 1863"

ACCIDENT PREVENTION SIGNS IN STANDARD COLORS AND DESIGNS

If you write maker identify as IEN - 7355

● when it comes to choosing most appliances like laundry units or refrigerators, Mrs. Homemaker holds the purse strings. you must sell her before you sell your product. decorative **mar-resistant** Rigid-tex Metals help you do that—trim retains its distinctive beauty without looking shabby because there's no scratching, marring or denting. that means fewer rejects in fabrication.

p.s. exclusive pattern designs available to your product specifications.

● write for your Design Imagineering Folder . . . on company letterheads, please.

RIGIDIZED METALS CORPORATION
6647 Ohio Street Buffalo 3, N. Y.
U.S. & Foreign Patents

50 Warehouses and Sales Representatives in All Principal Cities Throughout the U. S. and Canada

If you write maker identify as IEN - 7356

Make Stronger Fastenings this easy way

Hardened

Masonry Nails

DRIVE EASILY into mortar, cinder blocks, and other soft masonry without pilot holes . . . into predrilled holes in harder materials.

HARDNESS and TOUGHNESS perfectly balanced . . . they drive in straight to stay tight, even under shock or vibration.

COST YOU LESS and are much simpler to use than plugs, expansion bolts, other devices. Samples free . . . try them. Ask your P-K Distributor, or write: Parker-Kalon Corporation, 200 Varick St., N. Y. 14.

PARKER-KALON®
FASTENERS

If you write maker identify as IEN - 7357

This Remarkable "GROUP OPERATION" DRIVES 3 SCREWS at ONE TIME!

AN ASTONISHING PERFORMANCE

MULTIPLIES PRODUCTION!

Three standard DPS SCREWDRIVING MACHINES, mounted on a common base, are feeding and driving three screws simultaneously into an automobile headlight frame as fast as one could be driven. **(The three heads can be operated simultaneously or individually as desired.)** Just another instance where Detroit Power Screwdrivers do the unusual.

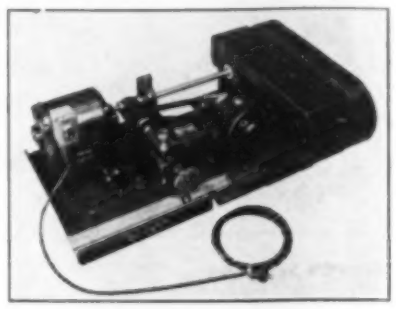
Have you an assembly problem? Tell us about it. Let us show you how you, too, can profit by the marvelous speed and incredibly low-cost operation of these versatile machines. Get details and our recent catalog.

DETROIT POWER SCREWDRIVER CO.
2815 W. FORT ST. DETROIT 16, MICH.

If you write maker identify as IEN - 7359

WOODWORKING . . Power attachment for band saw to make glue blocks

Source: OLIVER MACHINERY CO.
1023-27 Clancy Ave. N. E., Grand Rapids 5, Mich.



For fast cut-off

Triangular glue blocks can be ripped lengthwise by this new No. 837 Glue Block machine from square stock measuring ⅜ to 1¼ in. and can be cut off in finished length measuring ½ to 3½ inches. Production is 60 to 200 pieces per minute. The unit mounts on the table of a standard band saw machine or the company's non-tilt plain table machine No. 192-D-18 band saw.

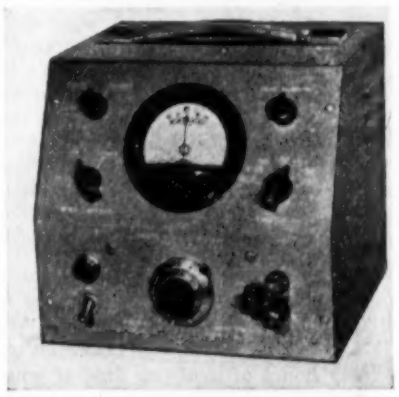
The saw positions centrally in the V-shaped feed trough, on one side, to face a feed wheel that rides on the work. This wheel is fed intermittently by means of crank and connecting rod from a geared housing connecting by belt to the driving motor. The connecting rod is positioned on the crank for the desired length of finished work. The band saw performs the ripping operation and, each time the stock is moved forward, a circular saw is fed down and back up again to complete the cut-off.

The circular saw is driven at about 5,700 rpm. by V-belt connection to the same ½-hp. motor that operates the feed. The attachment alone lists at $850. The attachment complete in assembly with the company's 18-in. band saw lists at $1,462.

If you write maker identify as IEN - 7360

TESTING . . DC. voltmeter for laboratory and production line

Source: COMPUTER CORP. OF AMERICA
147 Church St., New York 7, N. Y.



List is $360

Seven ranges for this new Model PVM-4 voltmeter are minimum at 0 to 10 volts, maximum at 500 to 600 volts. Linearity is within 0.05 per cent of full scale in any one range. Accuracy is within 0.2 per cent of full scale or plus or minus 20 mv., whichever is greater. Temperature coefficient is within 0.005 per cent per deg. C. Assembly is in a housing that measures 9 by 11 by 8 inches. Weight is 11 pounds.

The meter consists of a stabilized power supply, a calibrated attenuator and a sensitive null indicator. The voltage to be measured is applied across one side of the null indicator and the attenuator is adjusted so its output, applied across the opposite side of the indicator, produces a null. The unknown value is then read directly from the attenuator setting. Means are provided to calibrate the internal power supply voltage against an integral Weston standard cell.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7361

RUEMELIN BLAST GENERATORS

A practical low-cost sand blast used by plant engineers for maintenance work. Cleans rust, paint, scale from piping, valves, fittings, renovating buildings, stripping paint from trucks, busses, trailers, railroad cars, structural steel, storage tanks, ship hulls, etc. Can be fitted with Wet Adapting Nozzle for eliminating dust.

Write for Bulletin 36-C

RUEMELIN MFG. CO.
3863 N. Palmer St.
Milwaukee 12, Wis.

Manufacturers and Engineers
SAND BLAST AND DUST COLLECTING EQUIPMENT, WELDING FUME COLLECTORS.

If you write maker identify as IEN - 7362

Small precision metal parts... Torrington makes them better, and for less!

FREE CATALOG — shows the great variety of small parts we can produce inexpensively and promptly. Send for copy today!

If your product uses small precision metal parts . . . pivots, pins, dowels, rollers, mandrels, needles, punches, etc. . . . send us your blueprints for a prompt quotation.

As a leading contract fabricator, TORRINGTON is equipped with the special machinery to produce in any quantity for quick delivery at low prices.

THE TORRINGTON COMPANY
Specialties Division
360 Field Street • Torrington, Conn.

Makers of
TORRINGTON NEEDLE BEARINGS

If you write maker identify as IEN - 7363

QUIET COOLING TOWER DRIVE FOR HIGH SPEED OPERATION

THIS worm gear Cleveland CU unit is designed specifically for cooling tower service. Rugged, efficient, compact, it easily handles heavy-duty fans at high speeds under extreme conditions of heat and humidity—Q-U-I-E-T-L-Y.

Simple in design, foolproof in operation. Easily installed, serviced and adjusted. So inherently quiet as to be ideal for use in air conditioning of industrial and public buildings, offices, stores, hotels, theaters, etc.

Bulletin 135 gives sizes, dimensions and horsepower ratings. Write for yours today. The Cleveland Worm & Gear Company, 3258 East 80th Street, Cleveland 4, Ohio.

CLEVELAND WORM & GEAR COMPANY
Speed Reducers
Affiliate: The Farval Corporation, Centralized Systems of Lubrication

If you write maker identify as IEN - 7364

NEED COPIES?
—produced in your own office

MODERN MIMEOGRAPHING — New equipment and supplies for the fast production of copies on a wide variety of paper and card stocks. A. B. Dick mimeograph products are for use with all makes of suitable stencil duplicating products.

MODERN SPIRIT DUPLICATING—Completely new A. B. Dick spirit duplicator produces 120 to 150 sharp copies a minute in 1 to 5 vivid colors from one master in one operation. Automatic feed—post card to legal size—16 lb. to 70 lb. stock.

MODERN OFFSET—A. B. Dick lithograph direct image plates and masters provide for (1) longer runs with sharp definition—(2) easier corrections — (3) more successful filing — (4) marked superiority in resistance to fingerprints.

(MODERN FOLDING—small, low-cost A. B. Dick electric folding machine saves time and money.)

Write Dept. IEN-53 for full information—or call the A. B. Dick Distributor listed under Duplicating Products in the classified section of your phone book.

A·B·DICK
THE FIRST NAME IN DUPLICATING
A. B. Dick Company • 5700 Touhy Avenue • Chicago 31, Illinois

If you write maker identify as IEN - 7365

IT'S THE WAY Heat is Distributed THAT DOES IT . . .

Even, gentle heat *all over* . . . with low BTUs per sq. in. . . . on every side of the tank wall, and bottom, too . . . make Sta-Warm heating tanks the standard of comparison for melting compounds and soft metals.

There is no better way *than the Sta-Warm way* to avoid burning (carbonizing) critical materials. Likewise, the broad distribution of Sta-Warm heat assures *complete* melting of all the tank contents. No cold lumps remain unheated to clog the drain or outlet.

The Sta-Warm basic design is *so flexible* that you can have just the kind of unit your job requires to operate most efficiently.

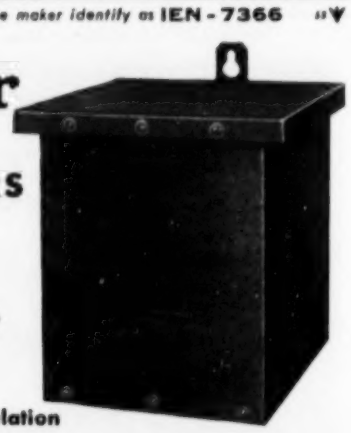
You name your problem. Let Sta-Warm make recommendations by return mail.

If you can tie a string around it, Sta-Warm can heat it for you.

Sta-Warm ELECTRIC CO.
560 N. CHESTNUT ST., RAVENNA, OHIO

If you write maker identify as IEN - 7366

Wagner DRY-TYPE TRANSFORMERS *help meet changing load demands*



80° C Rise—Class B Insulation

Wagner dry-type transformers can deliver the right voltage close to the load wherever machines, portable tools or lights require voltage changes. They will save you money on insurance premiums. Fireproof vaults or other special protection are unnecessary for indoor installation.

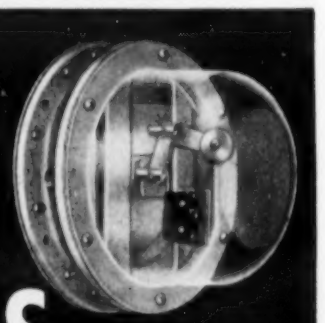
When you use Wagner dry-type transformers, you reduce installation costs, reduce line losses, and eliminate long runs of secondary copper. These transformers are small in size, light, easy to install and easy to move whenever changes in plant facilities make it necessary.

These transformers are built in the Wagner Form W design which permits less weight per kva and space-saving installation. Available in sizes 3.0 to 100 kva, 600 volts and below.

Wagner Electric Corporation EST. 1891
6414 PLYMOUTH AVENUE
ST. LOUIS 14, MO.
T53-7A
ELECTRICAL EQUIPMENT AND AUTOMOTIVE BRAKE PRODUCTS

If you write maker identify as IEN - 7367

NEW LOW PRICES on BIN-DICATOR



world's **simplest** automatic bin level indicator. **No springs, no motors, no lubrication.** Watches **and reports** material levels in bins, silos, hoppers, chutes, etc.; automatically starts, stops filling machinery. Used throughout industry. **Units installed 20 years ago still in use.** Free catalog with valuable engineering data. Write:

THE BIN-DICATOR CO.
13946-B Kercheval Avenue • Detroit 15, Michigan

If you write maker identify as IEN - 7368

TRUCK . . Foot hydraulic lift for skids, has load rating to ½ ton

Source: IRONBOUND BOX & LUMBER CO.
40-44 Hoffman Place, Hillside 5, N. J.

Hydraulift Skid Truk

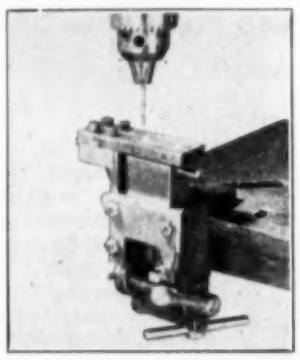
Depressing a foot pedal raises the load platform on this new Hydraulift Skid Truk. Light pressure on a release lever acts through a hydraulic check to return the load to floor level without dropping it. The steering assembly provides for easy swiveling action and permits operation in narrow aisles. The truck can be used as a platform unit with its fully covered steel top.

The frame is in welded assembly. Mounting is on composition wheels that protect floors and minimize noise. The wheels are 4 in. in diameter. Overall length is 49 inches. Width is 14 or 18 inches. Platform height is 7 in. in lowered position. Lift is through 1¾ inches. Weight is 100 pounds.

If you write maker identify as IEN - 7369

DRILLING . . Holding fixture for cross holes in cylindrical work

Source: C & J SCREW MACHINE PRODUCTS INC.
Line & Diamond Ave., Columbia City, Ind.



Adjustable design

Work pieces measuring ¼ to 1 in. in diameter can be held on the interchangeable V-blocks that are provided with this new cross hole drilling fixture. The unit will take drills to ⅜ in. for location to a maximum of 1⅞ in. from the end of the work. The fixture clamps to a drilling machine table. The work is secured by operating a lever that rotates a cam to raise the V-block up beneath the bushing plate.

Identify as IEN - 7370

You can save a good many hours of drafting time, if your drafting operations involve repeat showing of elements such as switches, pump units, valves, by employing a new service started at New Hermes Engraving Machine Corporation, 15-17 University Place, New York 3, N. Y. You make sketches of the elements and send them to New Hermes to make and send you transparent plastic templates for quick tracing. The company makes them on its engraving machine, includes bevel edges to conform to pencil points. You also can purchase one of the machines if your engraving and template-making volume warrants.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7371

Commander TAPPER

★ Wider Range...1 Tapper Handles #0 to ¾" Taps

★ Automatic Tap Protection

★ Furnished to fit any Drill Press

Commander—"The Tapper That Thinks For Its Operator," has the adjustable full range torque control that instantly stops any tap when it becomes dull, loaded, strikes a hard spot or bottoms in blind hole tapping. Assures maximum tap protection, higher production, even with inexperienced operators.

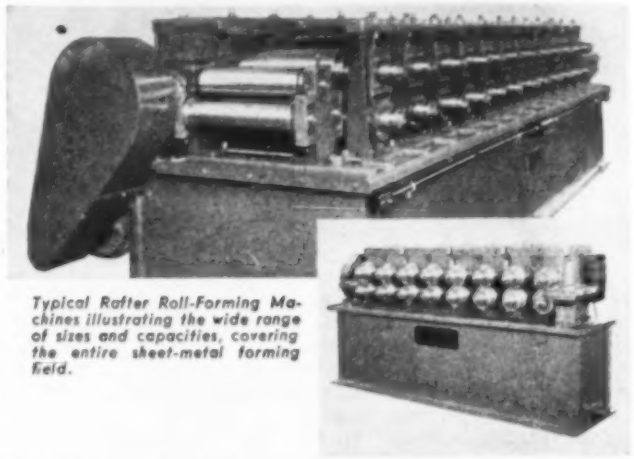
Your nearby Commander Distributor can give you a demonstration in your own plant. Write for his name and a copy of the NEW Commander Full Line Catalog #851

COMMANDER MFG. CO.
4219 W. Kinzie St. Chicago 24, Ill.
Product of *Commander*... Builder of Production Tools

If you write maker identify as IEN - 7372

RAFTER COLD METAL ROLL-FORMING MACHINES

Correct Design for Maximum Efficiency



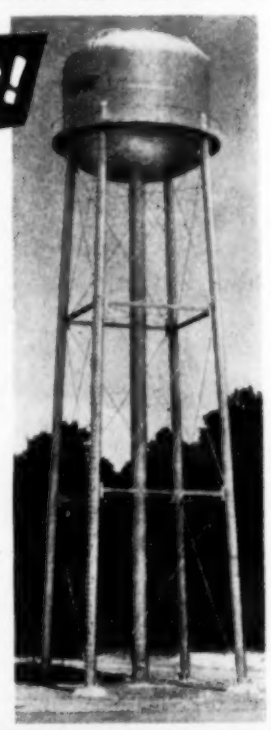
Typical Rafter Roll-Forming Machines illustrating the wide range of sizes and capacities, covering the entire sheet-metal forming field.

Patented balanced gear drive mounted on roller bearings distributes power efficiently to each pair of rolls . . . Gear ratio is a continuous reduction from drive shaft to roll shaft, quiet, efficient and compact. This drive consumes less power than any other type . . . Exclusive design permits greatest vertical adjustment of the upper roll spindles, without the aid of square gearing or small complicated gears . . . Design permits quickest and most accurate change of rolls possible. Shafts always remain parallel. Adjusting screws connect front and rear bearings . . . Low power consumption, lasting accuracy, longer roll life, and higher output are made possible by these and many other features.

RAFTER MACHINE COMPANY, INC.
SINCE 1917
249 Stephens Street • Belleville 9, N. J.
GANG SLITTERS and PRESS BRAKE DIES

If you write maker identify as IEN - 7373

FIRE FIGHTER!



That's how this 100,000-gallon Horton* elevated tank is used at one of the Textron Southern Inc. mills. Should fire break out, water from the Horton tank will flow, by gravity, the moment a sprinkler head opens. This means dependable fire protection for this factory 24 hours a day.

Horton ellipsoidal-bottom elevated tanks are built in standard capacities from 15,000 to 500,000 gals. For estimates, please write our nearest office. State capacity required, height to bottom, location of proposed installation and type of insurance carried.

*Ⓡ in U. S. Patent Office

CHICAGO BRIDGE & IRON COMPANY
2123 McCormick Building • Chicago 4, Illinois
Atlanta • Birmingham • Boston • Cleveland • Detroit
Houston • Los Angeles • New York • Philadelphia • Pittsburgh
San Francisco • Seattle • Tulsa
Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY and GREENVILLE, PA

If you write maker identify as IEN - 7374

NOLAN ONE-MAN CAR DOOR OPENER

Opens Doors in 20 seconds or less!

The Nolan Car Door Opener gives one man a tremendous amount of pulling energy, to get the most stubborn, hard-rolling door wide open in a hurry! New chain has 2000 lbs. tensile strength.

No gangs needed. No mangled limbs or loss of life. A few quick pulls an anchor chain gets any door open in a jiffy. The NOLAN saves its low initial cost in first hour of operation.

New safety features make the Nolan 1-Man Car Door Opener a more necessary labor-saving, money-saving help than ever before.

MANY THOUSANDS IN CONSTANT DAILY USE! FREE LITERATURE.

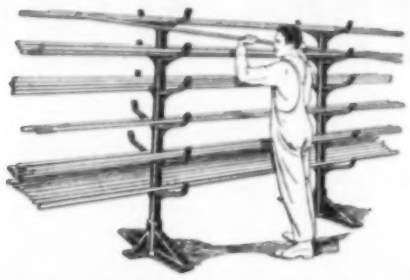
Order one or more NOLAN Model-H Car Door Openers now. Catalog on request.

$37.50 F.O.B. Bowerston

THE NOLAN COMPANY • 114-C Pennsylvania St., Bowerston, Ohio

If you write maker identify as IEN - 7375

for EFFICIENT HANDLING and ORDERLY STORAGE



You save time, both in storing and in issuing, when you use Brown Sectional Racks. Open sides speed handling. Complete visibility permits quick selection to save waiting mechanics time.

Maximum flexibility in arrangement is possible because each Brown Rack is independent and self-contained, need not be bolted to floor. Easily relocated. Systemized storage with Brown Racks promotes good housekeeping, cleanliness.

All iron and steel construction, can't burn, bend, sag or warp. Never wear out.

Get these values now! Write for complete specifications and prices on wide range of models and sizes. Brown Engineering Co., 122 N. Third St., Reading, Pa.

BROWN QUICK-SERVE RACKS

If you write maker identify as IEN - 7376

15,000 TYPES, SIZES & RATINGS

to meet your heating needs!

CHROMALOX *Electric* HEATERS

INCREASE PRODUCTION . . . DECREASE COST WITH THESE LOW-COST PRODUCTION TOOLS

Use Chromalox Electric Heaters to heat liquids, air and gases. Use them to heat platens, dies, molds and moving metal parts. Use them anywhere you want fast, economical and easy-to-control heat for production line processing. Chromalox Heaters are simple to install, efficient, come in types, sizes and ratings for working temperatures up to 1100° F. Most are available from stock.

FOR IDEAS ON HOW TO USE CHROMALOX HEATERS
WRITE FOR THIS HANDBOOK

Industrial Div., EDWIN L. WIEGAND CO., 7505 Thomas Blvd., Pittsburgh 8, Pa.
See Chromalox Electric Radiant Heaters Advertisement, Page 5

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

If you write maker identify as IEN - 7377

A—Deep crack. B—Tamping Smooth-On in. C—Crack completely sealed.

If You've Never Used SMOOTH-ON, *read this:*

Smooth-On No. 1 Iron Cement is a metallic powder which you mix with water to the consistency of putty. You [illegible] it, while still soft, into a crack or hole, making sure to force it against all surfaces. With Smooth-On you don't need to use heat or special gadgets. As it hardens, it expands slightly, clinging tightly in place. The repaired parts is ready for use as soon as Smooth-On sets hard. Keep Smooth-On handy for both emergency and routine maintenance repairs. Get it in 7 oz., 1, 5, 20, or 100 lb. size. If your supply house hasn't Smooth-On No. 1, write us.

FREE 40-PAGE REPAIR HANDBOOK

Shows many industrial and home repairs made with No. 1 and other Smooth-On Cements. Leaks stopped, cracks sealed, loose parts made tight. 140 illustrations. Drop us a line for YOUR free copy.

SMOOTH-ON MFG. CO., Dept. 1
57 Communipaw Ave., Jersey City 4, N. J.
SO-293

***Do it with* SMOOTH-ON**
THE IRON REPAIR CEMENT OF MANY USES

If you write maker identify as IEN - 7378

TRUCK . . Engine powered fork lift, electric generator and motor drive

Source: AUTOMATIC TRANSPORTATION CO.
149 W. 87th St., Chicago 20, Ill.

No gear shifting

Continental engine, water cooled design, is coupled direct to a power generator in this new Dynamotive truck. The engine rates 38 hp. at 1,800 rpm. It is governor controlled so it cannot overspeed. The generator connects electrically to the truck's travel motor. It drives the motor at higher or lower speed depending on the operator's selection of engine speed at a foot throttle. A small switch, beneath the steering wheel, is operated to select travel direction forward or reverse.

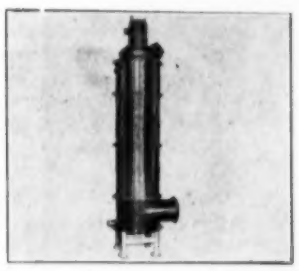
The truck is stopped by depressing a brake pedal to operate a dual-cylinder set of 14-in. wheel brakes. A disc type parking brake is operated separately by a hand lever. It is set also by the foot pedal in the event of hydraulic failure.

A load is handled vertically by a hydraulic pump connected to the engine. A valve directs oil flow to the lifting ram or the tilt control cylinders. The truck is available in 2, 2½ and 3-ton ratings, based on 48-in. loads. Overall height, in lowered position, is 83 inches. Lift height is standard at 125 inches. Length without the forks is 79 to 84 inches. Wheelbase is 52 inches. Width, over the drive tires, is 40 to 44 inches. Travel speed is 8 mph. light, 8 mph. loaded. Lift is at 40 fpm. light or loaded at 1,800-rpm. engine speed.

If you write maker identify as IEN - 7379

FUME COLLECTING . . Wash tower to clean and exhaust fume laden air

Source: UNITED STATES STONEWARE CO.
Box 350-A, Akron 9, Ohio



Also traps dusts

Suction blower with an integral motor is mounted on the top of this new Fume Washer. It draws fume laden air in through a tangential connection at the bottom. The air moves upward through a packing of Intalox Saddles, counterflow to water that is sprayed over the packing from a top pipe connection from a shop supply. The descending water absorbs the fumes and is released through a waste connection at the bottom. The washed air is discharged through the blower to return to the room where the unit is located.

Two sizes are 20 and 30 in. in diameter. Height is about 8½ and 9½ ft. with two standard intermediate sections. The small unit is driven by a 1-hp. motor and rates 750 cfm. The large one mounts a 2-hp motor and rates 1,650 cfm. The steel housing and all other metal surfaces are coated with $\frac{1}{16}$-in. of the company's Tygoflex plastic to protect against abrasion and corrosion. This same coating makes an air tight seal at the flanges between sections, after the outside edges are covered with a plastic tape supplied for this purpose.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7380

YOU CAN CUT COSTS ON LIGHT ASSEMBLY OPERATIONS *with this fast* Bellows AIR VISE

Built-in electrical or mechanical valve for automatic operation

VISE may be operated by hand or foot or may be synchronized to riveters, punch presses, arbor presses or other machines. Clamping pressure adjustable from 0 to 500 lbs. 4" soft steel false jaws. Jaw opening adjustable to 2¼".

1080

The Bellows Co.
AKRON, OHIO

Write for Bulletin IEN 753

If you write maker identify as IEN - 7381

EFFICIENT LOW COST SPRAYING!

DELAVAN'S Type WF Spray Nozzle delivers a flat, uniform spray ideal for:

Metal Cleaning
Industrial Washing Machines
Hot Asphalt Spraying
Gravel Washing
Coal Washing

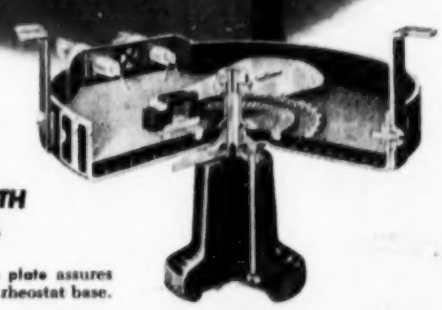
. . . and many other industrial applications.

Write for Catalog No. 30

DELAVAN MANUFACTURING CO.
GRAND AVENUE & 4TH STREET
WEST DES MOINES, IOWA

If you write maker identify as IEN - 7382

NEW Vitrohm Rheostat



with 6 exclusive features *FOR SMOOTH CONTROL*

1. **Pressed steel base plate** assures a sturdy lightweight rheostat base.
2. **Balanced contact arm** reduces creep from vibration or shock.
3. **Solid brass rectangular contacts** provide more steps of control.
4. **Refaced collector ring** supplies a self-cleaning surface.
5. **Vitrohm enamel** permanently seals and insulates stationary components.
6. **Contact shoe and bearing** are self-lubricated for smooth control.

Close control by Ward Leonard over the manufacture of every component results in the most dependable and economical line of rheostats ever made. For new Bulletin 60a write to Ward Leonard Electric Co., 33 South St., Mount Vernon, N. Y. 3.24

WARD LEONARD ELECTRIC CO.
Result-Engineered Controls Since 1892
RESISTORS • RELAYS • MOTOR CONTROLS • CHROMASTER

If you write maker identify as IEN - 7383

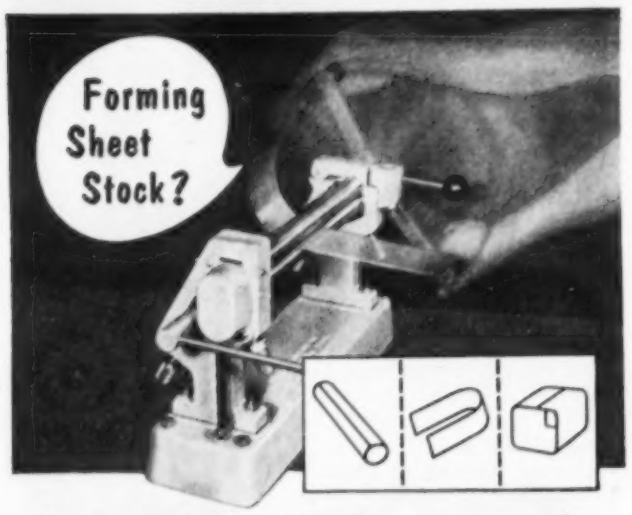
Write for free booklet

See this booklet, containing new and improved features in standardized conveyors. Logan Conveyor ADAPTO UNITS are pre-fab units which are combined to make standardized conveyors such as Inclined Belts, Horizontal Belts, Live Rollers. Because pre-engineered and produced in quantity, shipment can be made rapidly. Quotations are very prompt and prices attractively low. Built by a pioneer in the industry. Write for your copy of booklet today.

LOGAN CO.
276 Cabel St., Louisville 6, Ky.
Send free booklet—Logan Conveyor ADAPTO UNITS
Mr. _____
Firm _____
Address _____

Logan CONVEYOR ADAPTO UNITS

If you write maker identify as IEN - 7384



Do it Quickly, Easily, Accurately with a New DI-ACRO* ROLLER

A cam actuated idler roll—an exclusive feature—makes it possible to form any diameter circle in two operations. Also, bends can be located at any point along the edge of a sheet with straight sections on both sides of the bend. Special rolls available for forming round, other shaped stock. Eight models. Rated capacity to 16 gauge. Forming widths from 6 to 42 inches.

*pronounced Die-ack-ro

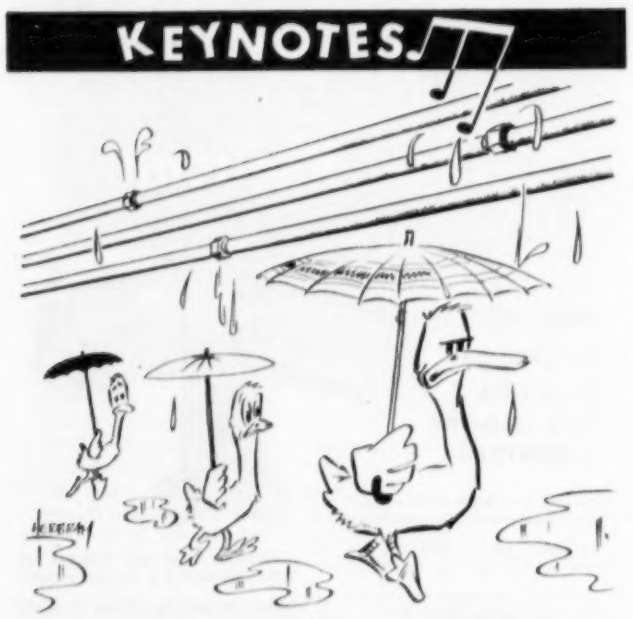
di-acro PRECISION METALWORKING MACHINES

SEND FOR 32-PAGE CATALOG

O'NEIL-IRWIN MFG. COMPANY
718 8th Avenue • Lake City, Minnesota

If you write maker identify as IEN - 7385

KEYNOTES



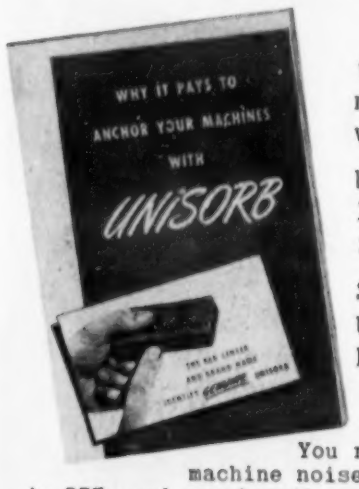
"Somebody ought to tell them about KEY-TITE, the perfect waterproof sealer for pipe joints carrying water, gas, low-pressure steam."

Write for FREE Sample

SEALS TIGHT... BREAKS RIGHT!

A Product of KEY COMPANY
2651 McCasland • East St. Louis, Illinois

If you write maker identify as IEN - 7386



to mount your machines without...

bolts
lag screws
floor damage

Send for the UNISORB® Booklet

You reduce transmitted machine noise and vibration up to 85%, and you lengthen machine life, when you use UNISORB mounting pads. And there is no danger of the machines "walking" when mounted this easy way. Send for your copy of the booklet describing this modern way to mount machines.

RETURN COUPON TODAY!

the **FELTERS** company, 208 South St. Boston, Mass.
Please send me a copy of "Why It Pays to Mount Your Machines on UNISORB" — at no obligation to me.

Name.....Title.....
(Please Print)
Company.....
Address.....
City.....Zone....State.....

If you write maker identify as IEN - 7387

CONVEYING . . Double belt assembly delivers filled cartons vertically

Source: CONVEYOR SPECIALTIES CO.
664-68 E. 3rd St., St. Paul 6, Minn.

Available to order

Two belts, friction surface design, are backed up by adjustable spring loaded rollers in this new vertical belt conveyor. Filled cartons are fed in at the bottom. They are gripped between the belts and carried upward to a discharge point at the top. One of the two belts, at this point, moves into horizontal position to feed a loading station or a continuing horizontal conveyor.

The delivery end shown in the illustration is part of a 30-ft. vertical assembly that handles 3,200 cases per hour. The back-up rolls will take care of a 2-in. variation in carton size. Automatic adjustment can be specified to 4½ in. or a one-station wide range adjustment can be provided.

If you write maker identify as IEN - 7386

METER . . Sensitive galvanometer reads low values of current, voltage

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.

Employs Alnico magnets

The coil and suspension element in this new galvanometer can be removed from the magnetic assembly and replaced with another of different sensitivity without having to remagnetize or to disturb external connections. The element and opticals are mounted in a light weight metal case measuring about 6½ by 16 by 8 inches.

At the front, a translucent scale is set at 15 deg. with vertical to assist in reading from a standing position when the instrument is on a table. The mirrors, that reflect light from a built-in source to the hairline indication which moves across the scale, provide a long beam path for high sensitivity. The scale reads 50-0-50 on the top and 0-100 on the bottom in mm. divisions.

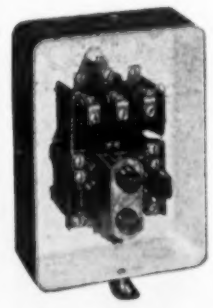
Identify as IEN - 7389

Pure silicon, particularly suited for manufacture of the new transistors, is available now to supply extensive research programs. Du Pont is making it in a pilot plant in Delaware. The present price is $430 a pound.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7390

Bulletin 609 Manual Starters



- Silver alloy contacts need no maintenance
- Generous wiring space in white interior

An Allen-Bradley Bulletin 609 across-the-line starter saves maintenance time on any machine. Contacts never need cleaning, filing, or dressing—they're always ready for action. Strongly built for years and years of trouble-free operation. Thermal breakers provide reliable motor overload protection. Allen-Bradley Co., 1312 S. Second St., Milwaukee 4, Wisconsin.

ALLEN-BRADLEY QUALITY MOTOR CONTROL

If you write maker identify as IEN - 7391

Low Temperature Melting

CERRO ALLOYS

can save you

Time • Labor • Money

. . . If you—

- make stamping dies
- locate bearings, non-moving parts in machinery
- make chuck-jaws
- bend thin-walled tubing
- make molds for plastics
- proof cast forging molds, dies, etc.
- bend metal molding and tubing

For COMPLETE INFORMATION, send for free "Cerro Alloy Application Data."

CERRO DE PASCO CORPORATION
Dept. 6, 40 Wall St., New York 5, N. Y.

If you write maker identify as IEN - 7392

Just 1/32" (pinhole size) faucet leak

MUSHROOMS into ATOMIC WASTE

of approximately [illegible],000 gallons of water yearly—costing:

$24.14

@ $1.90 per M cubic feet

If a hot water faucet, then actual FUEL WASTED heating 95,000 gallons costs approximately:
$[illegible] if coal (9879 lbs.)
$91.08 if oil (792 gals.)
$84.41 if gas (84,412 cu. ft.)

Above figures authenticated by Hackensack Water Co. and American Gas Association.

STOP this needless WASTE during today's MATERIAL and MANPOWER shortages with "SEXAUER" "Easy-Tites" that outwear ordinary faucet washers 6-to-1, thus SAVING labor on 5 REPEAT repairs, PLUS water and fuel, while prolonging the life of SCARCE fixtures.

PAT'D.

"EASY-TITE" Faucet washers

...a modern laboratory triumph, are compounded from du PONT NEOPRENE (tested up to 300°F.) instead of rubber—to withstand DESTRUCTIVE HEAT common in present-day superheating water systems—that formerly broke down washer's structure.

Built like a tire with fabric re-inforcement

they resist the grinding, closing squeeze that SPLIT and MUSH ordinary washers out of shape...causing LEAKS.

Through combining NEOPRENE and FABRIC RE-INFORCEMENT they OUTWEAR ordinary washers 6-to-1 on hot or cold FAUCETS—thus you slash water, fuel and labor costs.

THE NEW 'SEXAUER' CATALOG, Edition G, just out pictures over 2500 TRIPLE-WEAR plumbing REPAIR parts and Pat'd. Precision Tools. It's today's accepted buying guide for discriminating purchasing and maintenance personnel among thousands of top PLANTS, INSTITUTIONS and GOVERNMENT AGENCIES that rely on SEXAUER repair materials. *Send for your copy today!*

Then too, there's a SEXAUER TECHNICIAN within quick call from coast-to-coast, who offers a special SURVEY service that sets up a schedule of the exact replacement parts required for your particular plumbing fixture regardless of make or age and *without obligation.*

A postcard will bring him and your NEW Catalog promptly.

J. A. SEXAUER MFG. CO., INC., Dept. K-73
2503-05 Third Avenue, New York 51.

as advertised in **THE SATURDAY EVENING POST**

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

If you write maker identify as **IEN - 7394**

American DRILL JIG BUSHINGS

SAVE YOU TIME AND MONEY

50% of your specials are now American's standards. The new standard sizes are listed in our new catalog. In addition, all lengths are now standard with American (no added charges). Our KING SIZE selection of standard types and sizes are immediately available to you — no waiting! SPECIFY AMERICAN.

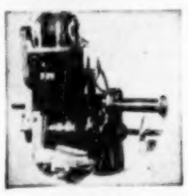
Write for name of nearest Distributor

AMERICAN DRILL BUSHING CO.
5107 PACIFIC BLVD. LOS ANGELES 58, CALIFORNIA

SPECIALIZING ONLY IN DRILL JIG BUSHINGS

If you write maker identify as **IEN - 7395**

Sure! Turner can furnish ordinary 3 or 4 speed transmissions — BUT . . . Turner can ALSO furnish 6 or 9 speeds for AS LITTLE AS $10 to $20 ADDITIONAL . . .



Now, for slight added cost you can have 6 or 9 speeds at the "twist of a wrist." Models range from fractional to 60 H.P. Wide range of applications on machine tools as well as other equipment. Write for specification and descriptive catalog.

See your dealer or write for further details

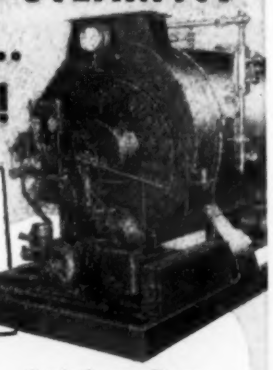
TURNER 3R3 UNI-REDUCER

New simplified speed reducer mounts on motor shaft with torque arm to frame or base. Fits standard motors 1 to 5 H. P., 1800 RPM; 1 at 3 H.P. 1200 RPM. Reduction ratio 3.04 to 1. Write for information.

TURNER UNI-DRIVE Company
3479 Terrace Street Kansas City 8, Missouri

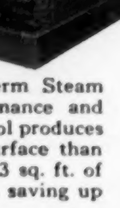
If you write maker identify as **IEN - 7396**

Produce MORE STEAM... in LESS SPACE... at LOWER COST! WITH CYCLOTHERM* CYCLONIC COMBUSTION



● In thousands of installations, Cyclotherm Steam Generators set new standards for performance and economy. Exclusive Cyclotherm flame control produces 66% more power per sq. ft. of heating surface than competitive type boilers and requires only 3 sq. ft. of heating surface per Boiler Horsepower . . . saving up to ⅓ on installation space.

- ✓ **Guaranteed 80% efficiency**
- ✓ **Complete on arrival. Only 4 easy connections**
- ✓ **Fully automatic controls**
- ✓ **Full power operation in 15 minutes**



Cyclotherm Steam Generators are designed for 18 to 500 h.p., 15 to 200 psi operating pressures. Approved—ASME, Nat'l. Board Standards, Underwriters Laboratories, Inc.

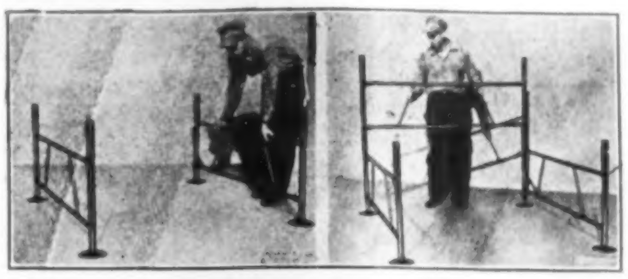
*Reg. trade name *Write for free catalog today. Dept. 29*

CYCLOTHERM STEAM GENERATORS
CYCLOTHERM DIVISION UNITED STATES RADIATOR CORP. OSWEGO NEW YORK

If you write maker identify as **IEN - 7397**

SCAFFOLD . . Tubular steel frame and accessories require no fastening

Source: BRAINARD STEEL DIVISION
1949 Larchmont Ave., Warren, Ohio



Brainard Scaffolding System

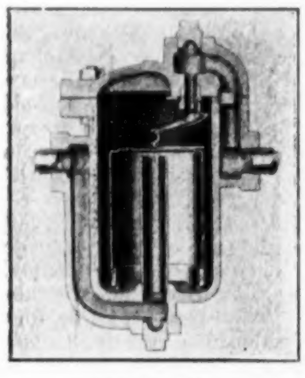
The company has acquired manufacturing rights for the Kwik-Skaf scaffold, previously described IEN-9885-52. It has improved upon the original design and now is prepared to supply the basic tubular steel frame unit and accessories, including tie bars, cross braces, outriggers, casters, base plates, screw jacks, connectors and extensions, to construct a scaffold on the basic 5 by 5 ft. dimensions.

Four of the standard frames fit together to make a section 4 ft. in height. The sidewalk frame measures 5 ft. in width by 8 ft. in height. It provides a 3-ft. walk-through center area. The basic units slip-fit together and are locked by means of a notch that engages a flattened section of the horizontal member. No fastenings are required. A frame measures 5 ft. in length by 2 ft. in height and weighs 24 pounds. A section comprising four frames is tested to 400 lb. per square foot.

If you write maker identify as **IEN - 7398**

TRAP . . Inverted bucket, for steam rates 6,800 lb. per hr. at 250 pounds

Source: ARMSTRONG MACHINE WORKS
888 Maple St., Three Rivers, Mich.



List is $46

Hardened chromium steel valve and seat and interior stainless steel trim are employed with a cast semi-steel body and cap in this new No. 814 unit in the company's line of inverted bucket steam traps. The stainless steel bucket is located over a wrought iron inlet tube that threads into the base of the body.

The bucket rides at the bottom of the body until steam and condensate enter from the inlet at the left. In this position the valve is open for exhaust to the right. Condensate collects in the body and excess water escapes through the outlet until steam reaches the trap and fills the bucket. Then it floats upward and closes the orifice. At the same time, incoming air passes through the vent in the top of the bucket and collects in a pocket formed by the cap.

Additional condensate displaces steam in the bucket which then loses its buoyancy, drops to the bottom and again opens the trap so condensate and air are discharged.

Overall dimensions are 9 in. in diameter by 13⅝ in. in height. Weight is 45 pounds. Pipe threaded connections can be specified at 1 or 1¼ inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . *See Page 50*

If you write maker identify as **IEN - 7399**

SETKO SET SCREWS help Maytag solve puzzling Set Screw problems

Maytag helps housewives solve puzzling laundry problems, with its famous Maytag Washers and this new Automatic Clothes Dryer. When Maytag has puzzling set screw problems, it comes to Set Screw & Manufacturing Co., as nearly 1500 other manufacturers have done ever since 1935. Today Setko Set Screws are used in all Maytag washers. If you have a puzzling set screw problem, regarding size, delivery, unusual or difficult application, we can probably help you solve it with Setko, Zip-Grip* Self-Locking or the new Nu-Cup Set Screws. Write us, describing your set screw application, and we will send you Free Test Samples and Zip-Grip* Demonstrator.

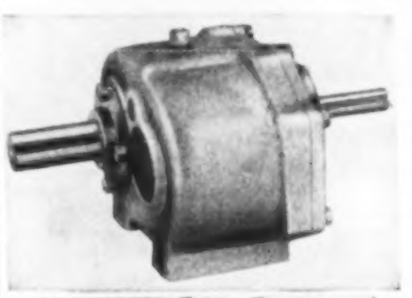
*Pat. Pending

FOR FREE CATALOG Simply write your name and address on margin of this page, tear out and mail today.

Set Screw & Mfg. Co.
5 Main St., Bartlett, Ill. (Chicago suburb)

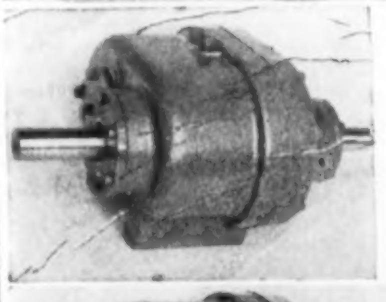
We Specialize in Solving Puzzling Set Screw Problems

If you write maker identify as **IEN - 7400**

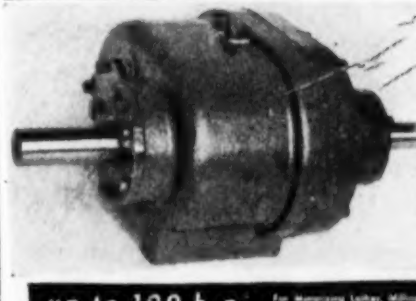


2 speed automatic transmission

13800 (1-5 H.P.)
5 H.P. capacity with input speed of 900 r.p.m. Maximum Reduction 6.3:1



14100 (5-20 H.P.)
20 H.P. capacity with input speed of 900 r.p.m. Maximum Reduction 6.3:1



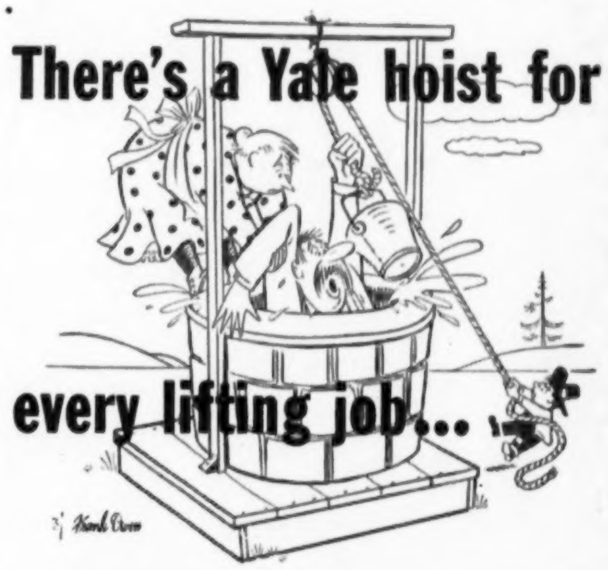
15000 (20-50 H.P.)
50 H.P. capacity with input speed of 900 r.p.m. maximum Reduction 6.3:1

Send for catalog and complete information.

up to 100 h. p. **WESTERN TRANSMISSIONS**
WESTERN MANUFACTURING CO. — DETROIT, MICHIGAN

If you write maker identify as **IEN - 7401**

There's a Yale hoist for every lifting job...

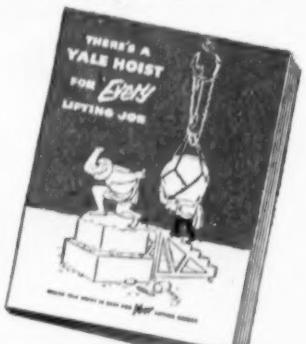


Whether your company's lifting requirements call for one, readily portable hand hoist to be used occasionally...or a plant-wide system of trolley-mounted electric hoists, you can best meet your needs with YALE. Because YALE makes the most complete line ...ranging from giant hoists that will lift 40 tons to an all-aluminum hoist weighing a scant 36 lbs. and which delivers an almost unbelievable 95% mechanical efficiency.

Get the whole story...get your FREE copy of the NEW YALE HOIST BOOK by completing the coupon and mailing today.

You need this Free Book if:

- You specify or buy hoists
- You use hoists in any phase of your company's operation
- You aren't satisfied with your present hoisting equipment



Yale Hoists are sold exclusively through industrial distributors

YALE*
MATERIALS HANDLING EQUIPMENT
Registered in U. S. Patent Office

MAIL THIS COUPON TODAY

The YALE & TOWNE Manufacturing Co., Dept. 367
Roosevelt Blvd. and Haldeman Ave., Phila. 15, Pa.

Please send me my FREE copy of the *Yale Hoist Users and Buyers Guide.*

Company_____
Name_____ Title_____
Street_____ City_____ State_____

In Canada write: The Yale & Towne Mfg. Co., St. Catharines, Ontario, Canada

GAS, ELECTRIC, DIESEL LIFT TRUCKS • WORKSAVERS HAND TRUCKS • HAND AND ELECTRIC HOISTS • PUL-LIFTS

If you write maker identify as IEN - 7403

Rolling Steel Doors

Manually, Mechanically, or Power Operated

Below you see Mahon Power Operated Rolling Steel Doors installed in six truck openings to a motor freight loading dock. Another Mahon Power Operated Rolling Steel Door 17'-0" x 22'-0" is installed in a railroad opening in connection with this same loading dock. Rolling Steel Doors occupy no usable space either inside or outside the opening . . . they create no overhead obstructions—cranes may be employed to handle materials adjacent to the door opening. Quick opening, quick closing, vertical roll-up action saves valuable time . . . all-metal construction provides permanence, greater protection against intrusion and fire, and assures you a lifetime of trouble-free service. Write for Catalog containing complete information including Specifications.

THE R. C. MAHON COMPANY
Detroit 34, Michigan • Representatives In All Principal Cities

MAHON

If you write maker identify as IEN - 7404

hand pushed

TROLLEYS

Webb Hand Pushed Trolleys are sturdily built for long life and minimum maintenance. Hardened steel wheels equipped with retainer type ball bearings assure long wearing properties and ease of operation. Triple labyrinth seals keep lubricant in and dirt out. Side guide rollers effectively eliminate binding and excessive wear, especially when moving loads around curves. For simple, inexpensive and easy handling of materials, use Webb Hand Pushed Trolleys.

P-2530
4" to 10" I-Beam; ½ Ton.

FOR BULLETIN AND PRICES WRITE TO:

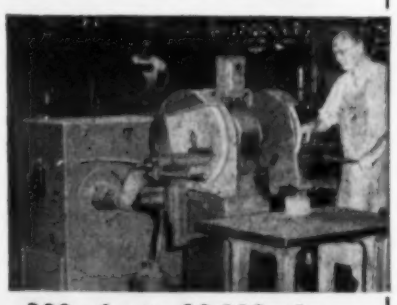
JERVIS B. WEBB COMPANY
8915 ALPINE AVE. DETROIT 4, MICH.
OFFICES IN PRINCIPAL CITIES
CONVEYOR ENGINEERS AND MANUFACTURERS

If you write maker identify as IEN - 7405

STOP DUST

INSTANTLY with DUSTKOP

DUSTKOP 1400 cfm.



DUSTKOP 3600 cfm.

300 cfm to 10,000 cfm per unit (22 models)

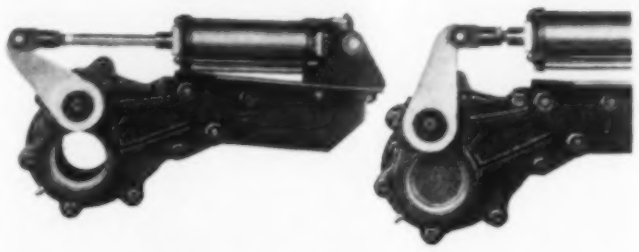
Standard pre-tested, available from stock. Ask for catalog 605-2. Describe dust problem for recommendation by return mail. No obligation.

AGET-DETROIT CO.
401 Main Street
ANN ARBOR, MICH.

If you write maker identify as IEN - 7406

VALVE . . Cylinder operated gate pivots from open to closed position

Source: EVERLASTING VALVE CO.
47-51 Fisk St., Jersey City 5, N. J.



Open to left Closed to right

Compressed air or hydraulic pressure can be employed in the operating cylinder of this new assembly in the company's line of swing type gate valves. The gate movement can be set at any required speed. The valve can be controlled electrically or manually in local or remote locations. Several valves can be interconnected for operation in required unison or sequence.

Flow is straight through. The valve seals drop tight in closed position although it does not have any wedging action. Sizes range from ½ to 6 in. for pressure to 300 lb. and from 8 to 16 in. for low pressure service.

If you write maker identify as IEN - 7407

TESTING . . Electric meter to read current, resistance, voltage

Source: SIMPSON ELECTRIC CO.
5202 W. Kinzie St., Chicago 44, Ill.

Seven inch dial

Model 262 is a new volt-ohm-milliammeter with sensitivity of 20,000 ohms per volt on dc., 5,000 ohms per volt on ac. Assembly is in a housing measuring 7 in. in width by 6½ in. in height. Each of the 33 ranges has been selected to meet overall needs of electronic and electrical testing.

Accuracy is within 3 per cent on dc. and 5 per cent on ac. of full scale deflection. The carrying handle is a pivoted unit that can be employed to support the instrument at a convenient viewing angle on a bench top. Dealers net price of $68 includes test leads, removable alligator clips, 4,000 volt dc. multiplier and a manual. Weight is 4 pounds.

Identify as IEN - 7408

Elwell Parker tells us about an interesting plan that is followed at American Finishing Company in making assignment of the new trucks it purchases from time to time. Each driver's record for safe efficient operation is kept continuously. The one who shows best gets the new equipment. Savings in time and maintenance have been remarkable.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7409

It takes only a Jiffy to pack it right... to ship it fast...

Whether you ship spare parts, tools, accessories, precision instruments or other products of semi-fragile or non-fragile nature—you need only JIFFY PADDED SHIPPING BAGS for complete packing protection.

Consider the savings effected in using JIFFY PADDED SHIPPING BAGS.

Time and Labor—the entire packing operation is reduced to 3 simple steps.

Insert item—Fold along scored line—Staple or Tape. SAVE UP TO 76% IN PACKING TIME!

Packing Material Costs—stock JIFFY BAGS and eliminate the need for corrugated boxes, fillers, overwraps and twine. JIFFY's built-in expansion cushioning hugs contents tight, absorbs shocks in transit. Its patented construction prevents damage due to moisture, dirt or dust.

Available in 8 standard sizes.

Free samples on request.

Distributors in 43 principal cities.

Jiffy Bags meet Military Specification MIL-B-4504 (USAF).

JIFFY MANUFACTURING COMPANY
366 FLORENCE AVENUE • HILLSIDE, NEW JERSEY

If you write maker identify as IEN - 7410

...for Greater SAFETY COMFORT STYLE DURABILITY } *Specify* **CESCO** *Safety Goggles*

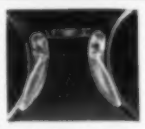
made in **3 EYE SIZES BRIDGE SIZES** TO FIT EVERY WORKER AND EVERY WORKING CONDITION

You can rely on **CESCO** *Safety Goggles for:*

- ★ Impact resistance
- ★ Shock-proof durable construction
- ★ Correct fit
- ★ Good looking, modern design
- ★ Simple lens replacement

for Information about CESCO's complete line of Safety Goggles see your CESCO distributor or write . . .

EXCLUSIVE COMFORT-BRIDGE
Distributes the weight evenly across the nose for "floating" fit. Seals nose area for full protection.



No. 380 Wire-Mesh Side Shield Comfort-Bridge Goggles.

No. 371 Sturdy, non-flammable plastic frame Goggles.

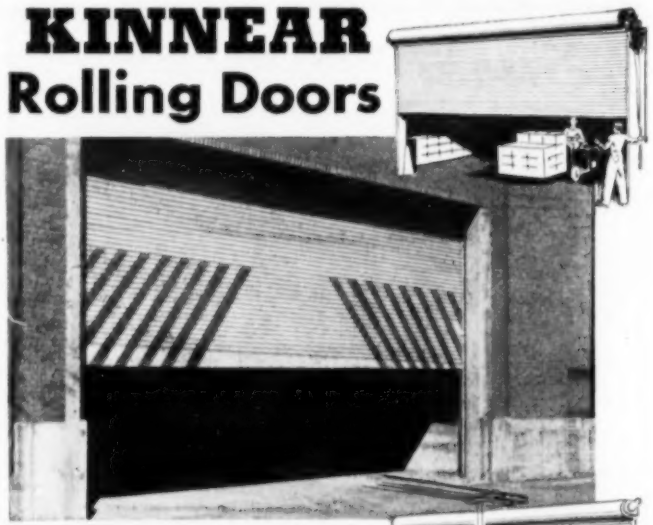
CHICAGO EYE SHIELD CO. • 2326 Warren Boulevard, Chicago 12, Ill.

CESCO FOR SAFETY

OFFICES IN: Atlanta, Birmingham, Boston, Buffalo, Cincinnati, Cleveland, Columbus, Detroit, East Orange, Houston, Kansas City, Knoxville, Little Rock, Los Angeles, Mexico City, D. F., Milwaukee, Montreal, Philadelphia, Pittsburgh, Salt Lake City, San Francisco, Spokane, St. Louis, St. Paul, Toledo, Tulsa

If you write maker identify as IEN - 7411

KINNEAR Rolling Doors



Every square inch of door opening remains fully usable. Traffic flows through freely and efficiently, with these interlocking steel-slat doors coiled compactly over the lintel. Ask about the many other advantages.

Catalog on request.

The KINNEAR Manufacturing Company

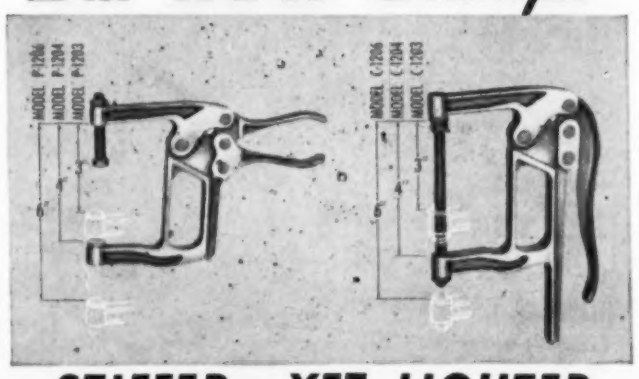
Saving Ways in Doorways KINNEAR ROLLING DOORS

Factories: 2380-2400 Fields Ave., Columbus 16, Ohio; 1742 Yosemite Ave., San Francisco 24, California

Offices and Agents in Principal Cities

If you write maker identify as IEN - 7412

Six NEW *Clamps*



STIFFER—YET LIGHTER

REQUIRE LESS EFFORT TO CLAMP

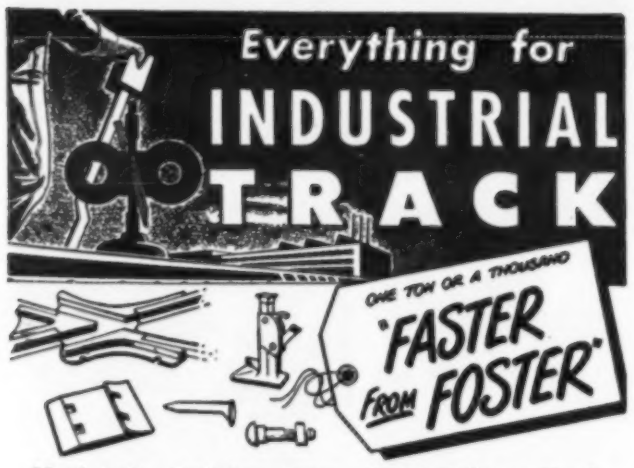
Here is another forward step in KNU-Vise clamps for efficient, fast and secure clamping.

These six new clamps made of heat-treated steel forgings are stiffer, yet lighter, and require less hand effort to clamp. At the same time, a greater clamping force is obtained. In addition, the new hand-hold design of the C-Clamp (at right) provides a guard to protect the user's fingers while clamping. A second spindle, instead of the anvil, can be furnished for special applications.

Sales offices in principal cities. Teletype DE 49.

KNU-VISE PRODUCTS **LAPEER MFG. CO.**
3060 DAVISON ROAD • LAPEER, MICHIGAN
WESTERN DIVISION: 422 MAGNOLIA STREET • GLENDALE, CALIFORNIA

If you write maker identify as IEN - 7413



Need Rails—Switches—Frogs—Guard Rails or Track Tools? For best selections and prompt deliveries—try FOSTER—shipments of most items can be made from stocks in our five nationwide warehouses.

RAILS—New and Relaying Foster stocks are being replenished daily. Any items we did not have last week, we'll probably have next week. We match specifications and sizes to meet all your requirements on any job, new installations or replacements. *Call on Foster for all your needs for Industrial Track Equipment and Supplies.*

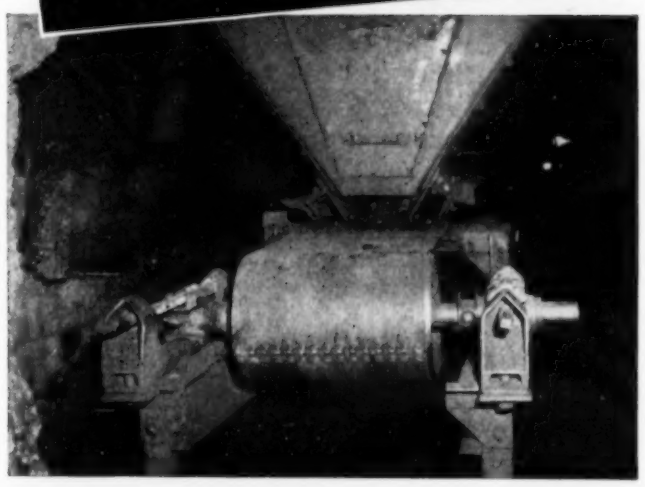
Write for Track Equipment Bulletin IE-7.

L.B. FOSTER CO.

CHICAGO 4, ILL. HOUSTON 2, TEX.
PITTSBURGH 30, PA. NEW YORK 7, N.Y.

If you write maker identify as IEN - 7414

Better rubber products are made with Du Pont NEOPRENE



Neoprene-covered conveyor belt outlasts other belts 4 to 1 carrying hot sand in foundry

A large steel castings company was plagued by frequent breakdowns of the conveyor belt on its shake-out machine. Jagged fragments of metal and hot sand at temperatures of 200° to 500°F. were cutting service life of asbestos conveyor belts to 90 days. A production bottleneck threatened until a heat-resistant neoprene-covered belt was installed.

The neoprene belt lasted four times longer than the asbestos belts—*one full year of trouble-free operation!* On this application, the severe abrasion conditions rapidly wore away asbestos belts; ordinary rubber belts soon failed from the intense heat. These are rugged service conditions for *any* conveyor belt . . . and offer striking proof of neoprene's toughness and its resistance to heat and abrasion.

This same dependability can be found in thousands of neoprene products currently lowering production costs throughout industry. While Du Pont makes no finished goods of neoprene, your manufacturer or distributor will be glad to tell you about the neoprene products he supplies.

FREE! THE NEOPRENE NOTEBOOK

Each issue describes new neoprene products . . . improved old products . . . tips on reducing maintenance costs. Write today for your free subscription. E. I. du Pont de Nemours & Co. (Inc.), Rubber Chemicals Div. IE-7, Wilmington 98, Delaware.

NEOPRENE

The rubber made by Du Pont since 1932

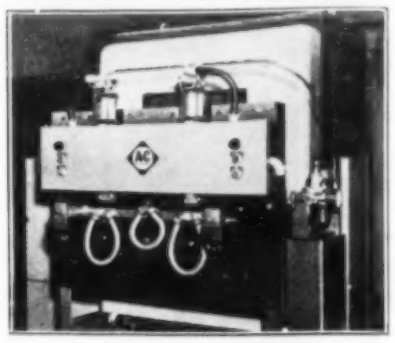
DU PONT

DETTER THINGS FOR BETTER LIVING . . . *through Chemistry*

If you write maker identify as IEN - 7416

HEATING . . Induction equipment to anneal, harden, braze and solder

Source: ALLIS-CHALMERS MFG. CO.
909 S. 70th St., Milwaukee 14, Wis.



Steps up production

New fixture has been developed to mount two work stations on the company's 10 or 20-kw. electronic induction heating equipment. It about doubles production of a single station machine and improves the duty cycle. The fixture is controlled electrically and is operated by air pressure. Time cycle for each station is independent of the other. The control circuit makes and breaks contact only when no power is being supplied to the work coils.

Supply current for the control circuit in the fixture is on 110-volt ac. Connections can be made direct to the company's heaters of recent manufacture. Application is by bolting the fixture to the heater housing. Cooling water is supplied from the heater cooling circuit or from a separate source. Bellows pneumatic cylinders assure firm air-held bus-bar contacts on 60-lb. air supply from a shop source. Remote Bellows cylinders and valves can be connected with those in the fixture to provide simultaneous work lifting. Cycle timing is by Eagle Signal equipment, four-station design, with a standard time scale of 120 seconds. Control centers at oil-tight pushbuttons monitored by pilot lights.

If you write maker identify as IEN - 7417

HEATING . . Tubular exchanger for fuel oil, includes safety control

Source: YULA WATER HEATERS INC.
164-68 W. 225th St., New York 63, N. Y.

Ask for Catalog O-29

Yula-Trol trade names an electric control unit to be employed in connection with a fuel oil heat exchanger. It sounds a warning and shuts down an oil burner in the event of an oil leak in the heater. It has been on the commercial market for a number of years, now is offered for general industrial use. The heat exchanger is designed to preheat Bunker C fuel oil, using hot water as the heating medium. It consists of a steel shell enclosing a removable copper tube bundle.

A probe is installed in the heater shell to maintain a closed circuit as long as it is immersed in water. If the water is displaced by either air or oil the circuit is broken and relay operation results to actuate a signal light on the relay housing, sound an audible signal and open the burner motor circuit.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7418

G.E. Announces . . . New d-c Portable Instrument

- Accurate within ½ of 1% of full scale
- Molded window allows more light on 5½" scale
- Built to withstand shock and vibration with spring-mounted jewel bearings
- Prices begin at $75.00*

For details, contact your G-E Apparatus Sales Office, or write Section 602-261, General Electric, Schenectady 5, N. Y.

*Mfgr's suggested retail price

GENERAL ELECTRIC

If you write maker identify as IEN - 7419

New!.. Simplified!.. Smaller!

ELECTRONIC NON-SYNCHRONOUS WELDER CONTROL

• for WALL or MACHINE MOUNTING •

Write for **BULLETIN 8992**

Address Square D Company
4041 North Richards Street
Milwaukee 12, Wisconsin

SQUARE D COMPANY

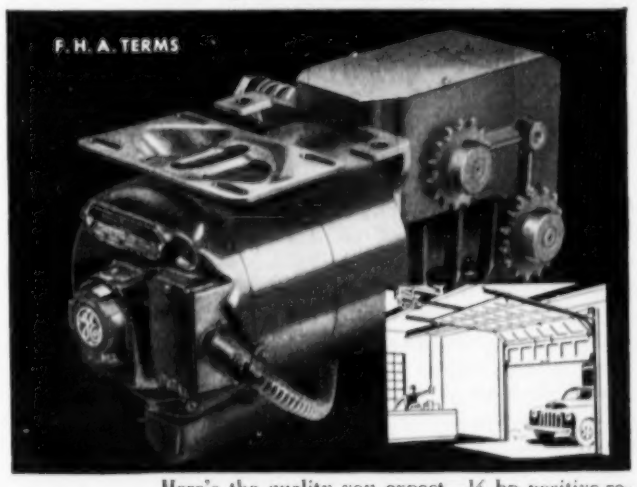
If you write maker identify as IEN - 7420

BARBER COLMAN

Barcol.

Electric Operators

Only $230* for this new Model L for doors up to 12 feet high

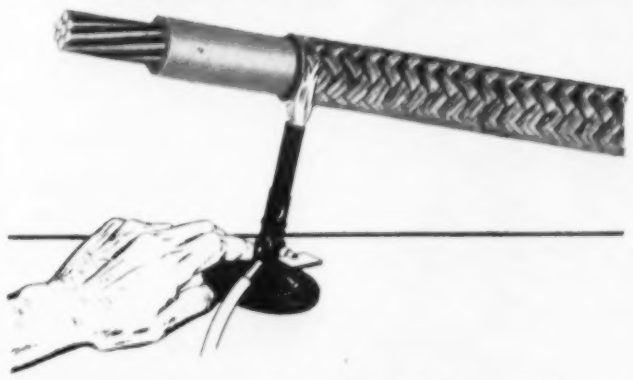


Here's the quality you expect—¼ hp positive-reversing motor, safety engineered with adjustable slip clutch, thermal overload and ball-bearing chain drive. In case of power failure, a handy clip release unlocks the door for manual operation. Save heat dollars, save time dollars—ask your local "Barcol" distributor (listed under "Doors" in telephone directory) or write. *F.O.B. Rockford, Ill.

BARBER-COLMAN COMPANY, DEPT. V37, ROCKFORD, ILLINOIS

If you write maker identify as IEN - 7421

for control wiring in hot spots . . . OKONITE'S OKOTHERM



Okotherm insulation, a silicone rubber compound developed by Okonite, maintains excellent electrical and physical properties over an extremely wide temperature range. High moisture resistance is another Okotherm characteristic. From printing presses to jet engines, Okotherm has successfully replaced other types of heat-resisting wires with overall savings as high as 88%.

Write today for further information on the advantages of Okotherm wherever high temperatures present a problem. The Okonite Company, Passaic, New Jersey.

OKONITE *insulated cables*

1679

If you write maker identify as IEN - 7422

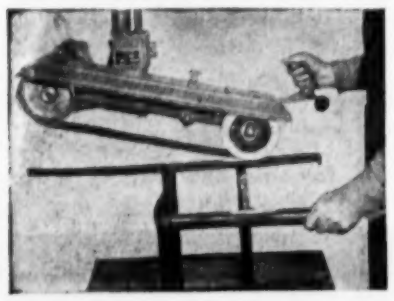
We specialize in circular parts like the ones illustrated above. With our special equipment and know-how we can produce BETTER parts for LESS MONEY. Can produce parts of all types using strip, square or round stock, also tubing and channels. Made in sizes up to 1½" wide. If you use castings, chances are that we can roll from bar or strip and save you money. This eliminates expensive machine work and produces longer wearing parts.

Consult our engineers regarding rolled parts, they have many years of experience and have saved money for many. Mail prints or send parts.

Write to

THE AUTO-DIESEL PISTON RING CO.
3139 Superior Avenue • Cleveland 14, Ohio
"RINGS and SHAPES *Since* 1921"

If you write maker identify as IEN - 7423

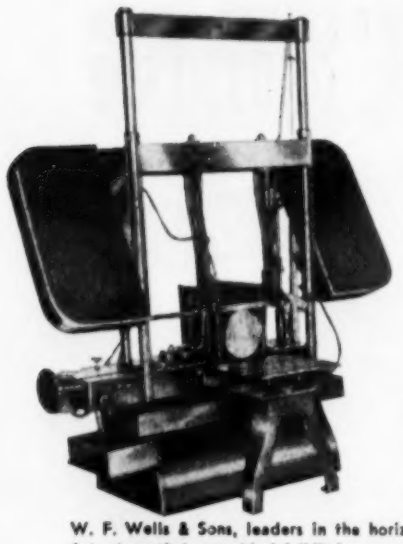


FOR THE FINISHING TOUCH

You Can't beat this new 6-72 Vonnegut Abrasive Belt Grinding and Polishing Machine for cutting weld seams and burrs, removing finish blemishes, etc. Light—but rugged . . . and well balanced . . . easily manipulated when arranged as a *swing machine.* It also can be supplied as a *floor stand* or as a *lathe attachment.* Because of its great versatility, the machine has proved its value for "special" applications too —and it may suggest an entirely new application in *your* plant. If so, write us about it—we'll be glad to help you solve the problem and supply the details for efficient production. Send for Bulletin No. 62.

Grinding and Polishing Machinery Corp.
SUCCESSORS TO VONNEGUT MOULDER CORPORATION
2530-D WINTHROP AVE., INDIANAPOLIS 5, IND., U. S. A.

If you write maker identify as IEN - 7424



LOOK...

Big Saw Capacity (24" x 24") in minimum floor area

*

W. F. WELLS & SONS
MODEL J

W. F. Wells & Sons, leaders in the horizontal band saw field, are proud to introduce their new Model "J" large capacity metal cutting band saw.

This machine, due to its full hydraulic operation, can be set for a continuous cycle making it practical for small jobs as well as large ones.

All welded cutting head gives it the extra rigidity and strength for the large cutting jobs.

This machine was constructed because of popular demand by the industrial manufacturers who need this large capacity at a reasonable price.

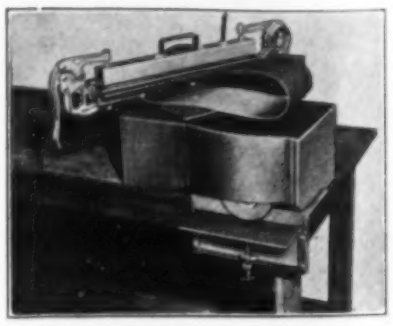
For full details on this machine and other models and accessories write W. F. Wells & Sons.

W. F. WELLS & SONS
Three Rivers, Michigan

If you write maker identify as IEN - 7425

GRINDING . . Splicing machine for abrasive belts to 14 in. in width

Source: AGET-DETROIT CO.
401 Main St., Ann Arbor, Mich.



No over-night waiting

Curing interval, to join the prepared ends of an abrasive belt, has been reduced from 24 hr. to about 1 min. in this improved design of the Econaway abrasive belt splicer. The improved equipment mounts a combination belt cutting guide and electrically heated toggle operated press on top of an enclosure for the motor driven grinding wheel that prepares the belt ends for splicing.

The electric element in the press head is controlled by a thermostat. The complete assembly, with the adjustable work supporting table beneath the grinding wheel, is designed to mount on a bench or table. Splices can be made in a short enough time so it is unnecessary to keep a stock of belts. The splicer will handle abrasive belts with either cloth or paper backing for grinding, polishing and sanding operations.

If you write maker identify as IEN - 7426

PROTECTING . . Respirator employs treated charcoal cartridge

Source: MINE SAFETY APPLIANCES CO.
21 Braddock St., Pittsburgh 8, Pa.

Bulletin 1007-1

New Gasfoe respirator is intended for protection against nuisance exposure to light concentrations of organic vapors and acid gases. It features light weight, compact design. Each of the parts is independently replaceable. The modern design is intended to overcome worker's resistance to wearing a respirator. Shape of the element promotes good vision by eliminating blind spots in the line of sight.

The face piece is made of aluminum that can be shaped by hand. A soft sponge rubber cushion contacts the wearer's face. The replaceable plastic cartridge is factory packed to prevent crushing or channeling of the charcoal fill. An auxiliary overlay screen keeps paint globules out. A package of the auxiliary screens is provided with each respirator.

Identify as IEN - 7427

Don't throw your old valves away. Collect them instead and ship them to Universal Machine Company, 805-9 Merchant St., Ambridge, Pa. This company will recondition them for you and return those that it can put back into condition for further service. Any type of valve, any size and number, and each will be guaranteed to operate satisfactorily.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7428

A PAID NEWS ADVERTISEMENT BY MATHEWSON MACHINE WORKS

NEW ADJUSTABLE DRILL JIG

eliminates layout; cuts drilling time

Used for drilling holes through round stock and hex stock from ¼ to 2" and cap screws from ¼" to 1¼", the new Mathewson Adjustable Drill Jig eliminates layout and can cut drilling time on small lots to a fraction. And it eliminates the costs of special jigs for larger quantities. Holes for cotter pins, set screws, drive pins for bayonet joints, oil holes in tubular sections, and wiring holes in cap screws, are all typical of the operation that can be done more economically with this jig. Hole diameters range from .052" to .531", using your A.S.A. standard slip bushings. The hardened V block has two 60-degree V's or centering round or hexagonal stock, one for ¼" to 21/32" diameter, one for 21/32" to 2" diameter. Adjustable stop for locating work longitudinally for drilling any distance from end, may be used on either side. Adjustable bushing carries hold slip bushings and clamp work securely. Jig highly successful in permitting use of inexperienced drill operators. For circular write to: **Mathewson Machine Works,** 26 Hancock Street, Quincy, Mass.

If you write maker identify as IEN - 7429

It's for You!

HOW TO
★ *Save Time*
★ *Save Floor Space*
★ *Reduce Handling Costs*

all in this FREE BULLETIN

On-the-job photos demonstrate the many advantages of the Nutting Jack and Skid System. It is easy and inexpensive to install—and it is so flexible to varying plant layouts that there is scarcely a materials handling problem to which it cannot be profitably applied.

SEND FOR YOUR COPY OF BULLETIN 48-JS NOW

Export Sales Representative Schell International Inc.
4237 North Lincoln Avenue • Chicago 18, Ill.

SINCE 1891 **Nutting TRUCK AND CASTER CO.**
2014 DIVISION ST., W., FARIBAULT, MINN.

If you write maker identify as IEN - 7430

Low-cost disposable

KIMWIPES*

clean goggles faster—better—safer!

Why let your employees take chances with dirty, scratchy cloths—used over and over again? Kimwipes industrial wiping tissues clean goggles and face shields far better because they're used only once; yet are no more expensive to use.

These clean, soft, absorbent tissues are 100% free of abrasive matter. Absorb up to 8 times their own weight in liquids. And Kimwipes are dispensed in handy "one at a time" packages that can be located at several spots in your plant.

You'll find dozens of other uses, too, from wiping up spilled liquids to precision polishing and inspection wiping. Try a few boxes soon and see if you haven't found the all-purpose wiping material you've always needed.

Two tissue sizes, 15" x 18" and 5" x 9". For information, write to Kimberly-Clark Corporation, Neenah, Wisconsin.

KIMWIPES INDUSTRIAL WIPING TISSUES

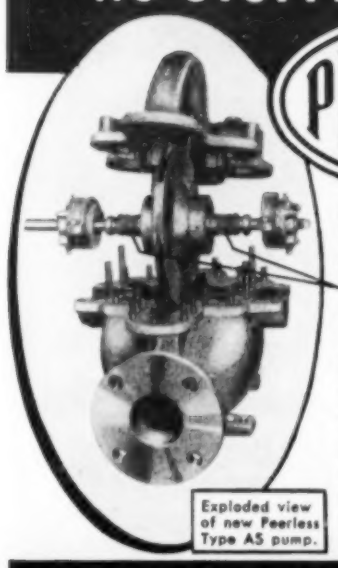
A Product of **Kimberly-Clark**

*T. M. REG. U. S. & FOREIGN COUNTRIES

If you write maker identify as IEN - 7432

THIS NEW HORIZONTAL SPLIT-CASE ALL PURPOSE PUMP HAS NO STUFFING BOX!

PEERLESS PUMPS



Exploded view of new Peerless Type AS pump.

New Peerless Type AS Pump is designed around mechanical shaft seals

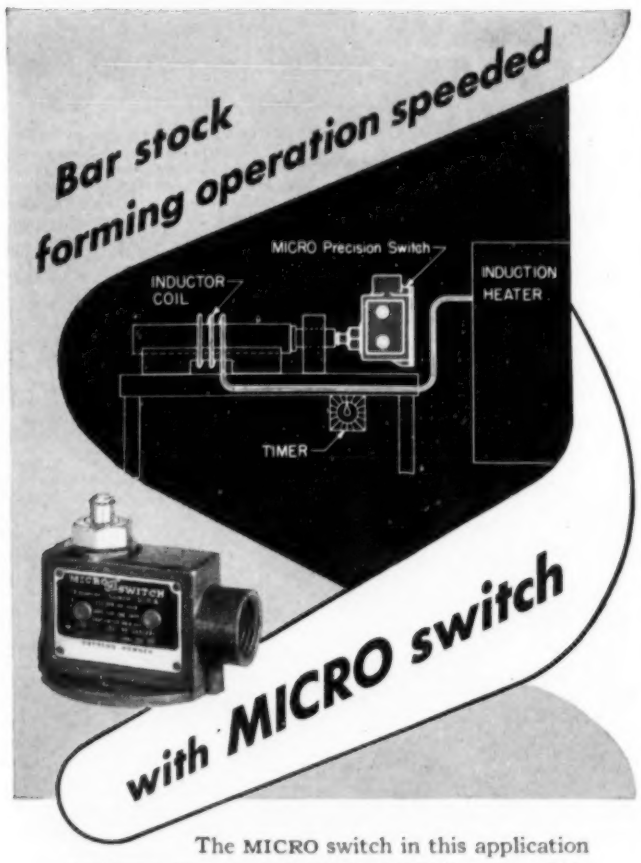
Write today for Peerless Pump Bulletin No. B-1350. Profusely illustrated with pump views, sectional and cutaway pump drawings, elevations and dimensional data. Mechanical shaft seals prevent water leakage, save space, cut maintenance costs, provide extra quality without a premium in price.

PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION

Los Angeles 31, California and Indianapolis 8, Indiana
Offices: New York, Chicago, St. Louis, Atlanta; Dallas, Plainview and Lubbock, Texas; Fresno, Los Angeles; Phoenix; Albuquerque, N. M.; Tulsa

If you write maker identify as IEN - 7433

Bar stock forming operation speeded with MICRO switch



The MICRO switch in this application performs two important functions in connection with the induction heating of bar stock to form harrow teeth. It controls both heating and bar position.

Operator slides the bar down a grooved surface through a back stop until it contacts the switch plunger. This assures the proper position of the bar in relation to the induction heating coils. The switch then actuates a timer which starts the heating cycle. One man thus performs both the heating and pulling operations with utmost efficiency.

In thousands of plants, all over the country, engineers and maintenance men are using small, dependable, ruggedly-housed and easily-mounted MICRO switches to make their equipment safer, more automatic and more productive. Complete stocks of these versatile switches are readily available to plant operators from authorized MICRO distributors in 142 cities. Look under "Switches, Electric" in your classified telephone book.

Ask us to send you MICRO TIPS, a live publication packed with practical ideas to speed plant production.

MICRO
MAKERS OF PRECISION SWITCHES
FREEPORT, ILLINOIS
A DIVISION OF MINNEAPOLIS-HONEYWELL REGULATOR COMPANY

If you write maker identify as IEN - 7435

MARKING . . Hand printing press applies color in markings on dials

Source: ACROMARK CO.
7 Morrell St., Elizabeth 4, N. J.

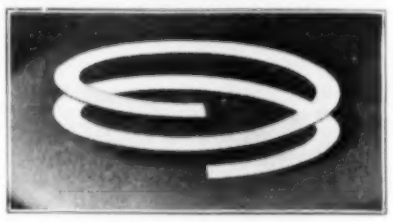
Fifty per minute

The operator of this new color marking machine moves the top handle forward in a rocking motion to pick up enamel, paint or ink from a revolving platen and inking roll. He places a work piece and moves the handle toward the rear to impress colors as determined by the Acroprene die that is carried on the upper platen. This die is molded to match the numbers, letters, and designs on the work. It is vulcanized to a metal plate for interchange in the machine with other dies.

If you write maker identify as IEN - 7436

SEALING . . Spiral teflon packing to back up O-rings, prevents extrusion

Source: GARLOCK PACKING CO.
248-52 Main St., Dept. 34, Palmyra, N. Y.



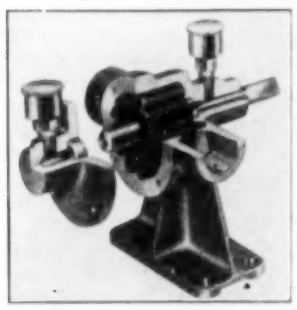
Protects the O-ring

Teflon is the material in this new Back-Up ring. It is made in O-ring sizes to AN drawings 6227 and 6230. The ring has high impact strength at temperatures between minus 100 and plus 500 deg. F. It is non-corrosive, non-adhering, non-fraying. It is self-lubricating and inert to most chemicals.

If you write maker identify as IEN - 7437

PUMP . . Rotary design with flexible rubber finger impeller

Source: HYPRO ENGINEERING INC.
402-6 Washington Ave. N., Minneapolis 1, Minn.



Bronze housing

Off-center location of the impeller in the housing of this new rotary pump causes the impeller's flexible rubber fingers to bend inward and outward radially to provide the pumping action. Three sizes are fitted with ½, ¾ and 1-in. ports. The shaft is stainless steel.

The impeller can be supplied to handle fuel oils and other liquids. Dirty water can be pumped without danger of clogging. Applications are in liquid transfer and sump draining.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7438

McDonald REVERSALARM keeps the road clear—BEHIND!

To protect workers in the path of backing-up trucks, equip your rolling stock with McDonald Reversalarm! Its powerful gong automatically sounds with unmistakable authority within the truck's first 8 inches of backward motion. Completely automatic—works even without truck motor running! Sturdy, weatherproof Reversalarm lasts for years — pays for itself many times over by preventing costly accidents.

WRITE FOR BULLETIN & PRICES

Write for Bulletin and Prices

Installing Reversalarm is easy. Its automatic interrupter switch connects to transmission speedometer cable take-off. Operates on 6- or 12-V systems.

B. F. McDONALD CO.
Manufacturers & Distributors of Industrial Safety Equipment
5721 WEST 96TH ST., LOS ANGELES 45, CALIF.
Other Offices in San Francisco & Houston

If you write maker identify as IEN - 7439

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings

★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

L. A. PHILLIPS, President
PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER 14, N. Y.

If you write maker identify as IEN - 7440

FORMS SMOOTH NEAT BENDS *Quick and Easy*

View of Pines Semi-Automatic in large aluminum plant bending extruded automobile window frames. Output easily meets production line capacity.

PINES Hydraulic SEMI-AUTOMATIC BENDER

FOR PRODUCTION, SHORT-RUN AND MAINTENANCE JOBS, YOU'LL LIKE THESE PINES FEATURES

1 **Simple Tooling** — provides an efficient, economical method of handling a variety of work not adaptable to fully automatic equipment.

2 **Safe, Dependable Accuracy** — smooth, adjustable hydraulic power forms neat bends, assures uniform results, cuts scrap losses.

3 **Easy to Set Up and Operate** — simple tooling adjustments, easy toggle clamping, push-button operation, convenient hand wheel for angle-of-bend selection.

4 **Saves Floor Space** — compact, self-contained hydraulic unit includes motor, pump, reservoir. Occupies less floor space — 3' x 7'

SPECIFICATIONS
- Std. Max. Capacity — 1" O.D. 16-ga. steel tube.
- Max. Rad. of Bend — 8½" to centerline.
- Tube Lengths — up to 5 ft. std. (Provision for longer lengths if required).
- Speed — 39 rpm.
- Working Height — 35".
- Motor — 3 hp.
- Pump — 7 gpm.
- Optional — Adjustable gauges, mandrel for critical bends.

Write For More Facts . . . Get full details on this dependable, economy-model Pines Bender designed to handle a variety of pipe, tube, bar, and extrusion bending work at speeds up to 300 bends per hour.

PINES ENGINEERING CO., INC.
Specialists in Tube Fabricating Machinery
BENDING · DEBURRING · CHAMFERING · THREADING MACHINERY
635 WALNUT
AURORA • ILLINOIS

If you write maker identify as IEN - 7441

NoDrip . . . STOPS CONDENSATION DRIP!

NoDRIP PREVENTS RUST in addition to stopping drip and keeping floors dry.

ANYONE CAN APPLY

Brush, trowel or spray NoDrip on tanks, condensers, suction lines, vats, pipes, walls, ceilings, etc. NoDrip adheres to metal, concrete, brick, plaster. It forms a seamless covering that is effective as soon as dry. Acid, alkali and brine resistant.

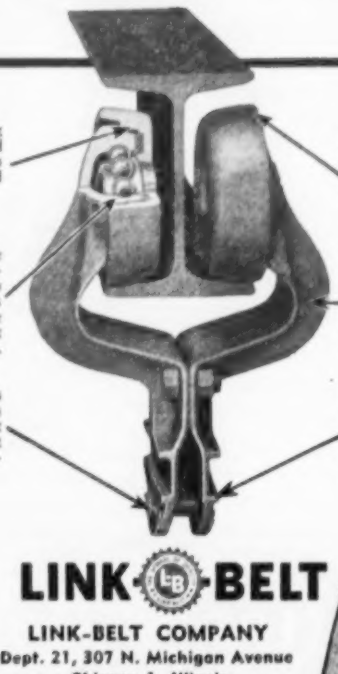
Interesting 32-page Handbook shows what NoDrip is and what it does. It's free. Send coupon today.

☐ SEND NoDRIP HANDBOOK
NAME
COMPANY
ADDRESS
CITY STATE

J. W. MORTELL CO., 510 BURCH ST., KANKAKEE, ILLINOIS
TECHNICAL COATINGS SINCE 1895

If you write maker identify as **IEN-7442**

Your conveyor dollars go farther with LINK-BELT trolleys



Effective sealing of wheel and bracket keeps out dust and dirt.

Raceways are induction hardened. High load capacity is based on entire assembly—not just on bearing.

Clevis pins are locked in bracket, cannot rotate. Bracket wear is minimized.

Wheels are drop-forged, internally machined to extremely close tolerances.

Rugged, one-piece bracket and clevis are drop-forged and heat-treated—fewer parts to maintain.

Trolley can replace other makes without disturbing chain's operating position.

LINK-BELT

LINK-BELT COMPANY
Dept. 21, 307 N. Michigan Avenue
Chicago 1, Illinois

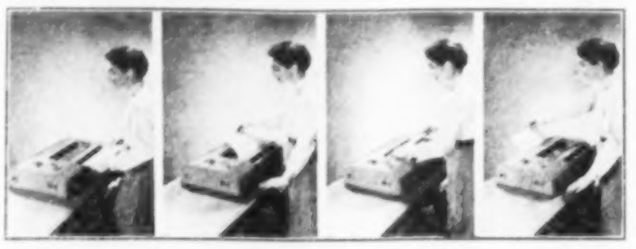
12,305

Write for Folder 2241-B.

If you write maker identify as **IEN-7445**

PRINTING . . Photocopy equipment exposes, develops, delivers to use

Source: REMINGTON RAND INC.
315 Fourth Ave., Room 1618, New York 10, N. Y.



Ready to use as delivered

Transcopy Duplex is a new single unit assembly of previously separate printing and developing equipment to photocopy any record that has been written, printed or drawn on one or two sides of opaque or translucent sheets. Width capacity is 14 inches. Any length can be handled. Operation is similar to that employed for the Copyfix equipment, previously described IEN-10334-52.

Operation starts with the contact printing compartment at the front into which an original and a sheet of Transcopy negative paper are inserted. The exposed negative and the original are removed after a period of exposure through a slot just back of the one at which they entered.

The exposed negative is placed face to face with a sheet of Transcopy transfer paper. These two are inserted in the two front slots of the developing section at the rear until they engage an electrically driven roller inside the housing. The two sheets travel through developing fluid in this compartment and emerge from it at a rear slot adhered to each other. The negative is removed and the positive is ready for duty. It is a faithful black and white reproduction of the original copy material.

Sensitized paper can be held in dispensers available with the new equipment. A spring controlled ejecting bar delivers a single sheet at a time through a light proof ejection slot. The machine applies on a 110-volt ac. circuit.

If you write maker identify as **IEN-7448**

World-wide recognition for this outstanding line of electric soldering irons—

HEXACON

–specified by the big names for the ***TOUGH JOBS!***

WESTERN ELECTRIC
MINNEAPOLIS HONEYWELL
RADIO CORP. OF AMERICA
WESTINGHOUSE
STROMBERG CARLSON
EMERSON
KAISER
SPERRY
BENDIX
etc.

PLUG OR SCREW TIPS
40 to 700 Watts
1/8" to 1 3/4", Tip Dia.

Follow the leaders and you'll specify HEXACON! They'll efficiently solve your soldering problems too! Write for literature.

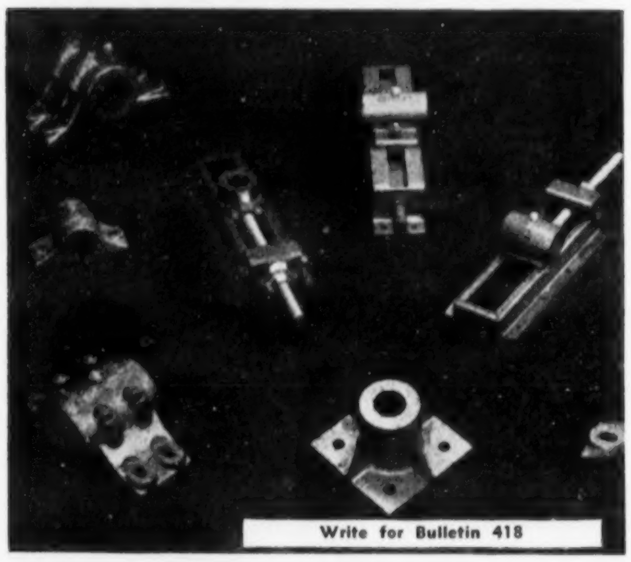
Here's the famous HATCHET TYPE

These irons feature better balance for reduced operator fatigue. Efficiency is stepped up, and quality of work is improved. The ideal iron for inaccessible and intricate jobs.

HEXACON ELECTRIC CO.
155 W. CLAY AVE., ROSELLE PARK, NEW JERSEY

If you write maker identify as **IEN-7443**

PILLOW BLOCKS AND TAKE-UPS



Write for Bulletin 418

THE JEFFREY MANUFACTURING CO.
Columbus 16, Ohio

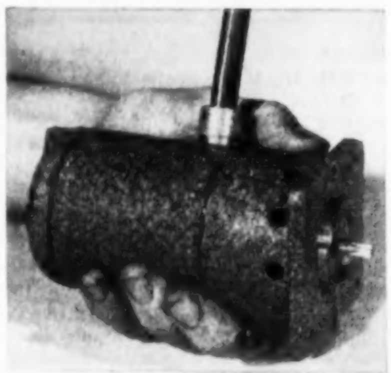
IF IT'S MINED, PROCESSED OR MOVED . . . IT'S A JOB FOR JEFFREY!

sales offices and distributors in principal cities

If you write maker identify as **IEN-7446**

MOTOR . . Three phase, 400 cycle ac., for aircraft duty, is brake equipped

Source: U. S. ELECTRICAL MOTORS INC.
Box 2058-A, Terminal Annex, Los Angeles 54, Calif.



Open circuit sets brake

Illustrated is a new ¼-hp. Type-A motor in the company's Aircraft line. Feature in its construction is the brake that will stop the motor in 10 revolutions from its rotating speed of 10,200 rpm. The motor is open type fan cooled self-ventilated and is designed for intermittent duty. It measures 2⅝ by 2⅝ by 6 inches. Its shaft is splined. Mounting is on an AN pad. The rotor operates on factory lubricated and sealed ball bearings.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN-7449**

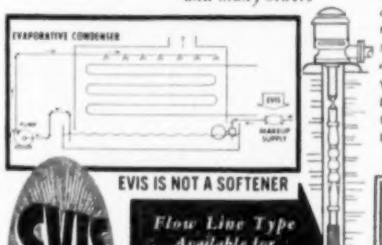
The Simplest Way to
SOLVE SCALE PROBLEMS

Proven Uses Include
ALL PIPING SYSTEMS
CONDENSERS (most types)
COOLING TOWERS
ENGINES & COMPRESSORS
CUBE & FLAKE ICE MAKERS
BOILERS (to 175 wp)
and many others

EVIS *Water Conditioners are helping industry conquer its costly scale problems. Plant equipment is made to operate at higher efficiency. Maintenance costs are profitably lowered and shut-downs for periodic clean-ups are often entirely eliminated. The EVIS units are Specially Processed to impart a continuous catalytic action on water-solids flowing through it. This action alters physical behavior sufficiently to inhibit most scale formations. Many thousands of EVIS Water Conditioners are now in service.*

Write for further information or ask your Plumbing Supply, Air-Conditioning-Refrigeration or Industrial Equipment Jobber.

SIZES | *⅜" thru 2" screwed; 2" thru 12" flanged*



EVIS IS NOT A SOFTENER

Flow Line Type Available for Deep Well Pumps

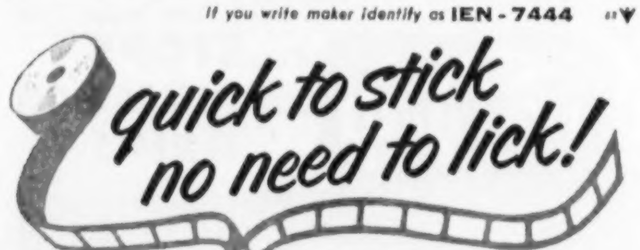
SOLD ON 90-DAY MONEY-BACK GUARANTEE

EVIS MANUFACTURING CO. 40 Boardman Place, San Francisco 3, California

FRANCHISED REGIONAL DISTRIBUTORS

WHITTIER (Calif.) KEN-EVIS COMPANY, *11146 E. Whittier, OX 9-2211*
SAN BERNARDINO (Calif.) KNUPPE & WRIGHT, *220 E. 46th St., SB 8-7838*
SAN FRANCISCO NORTH-EVIS AGENCY, *74 Dorman Ave., MI 7-3822*
RENO WATER CONDITIONED SALES CORP., *Western Amer. Life Bldg., 2-5639*
SEATTLE EVIS-NORTHWEST, *2417 E. Marginal Way, EL 6116*
CHICAGO EVIS-GREAT LAKES COMPANY, *203 N. Wabash Ave., ST 2-5948*
OMAHA EVIS-MIDWEST, INC., *1504 Dodge St., JA 7044*
DALLAS EVIS-SOUTHWEST CO., *6817 Chevy Chase, EM 0137*
ATLANTA EVIS-SOUTHEAST CO., *735 Spring St., N.W., VE 0241*
PHILADELPHIA EVIS-MIDEAST CO., *1. E. Richmond St., NE 4-0855*
ALBANY (New York) EVIS-NORTHEAST CO., *37 Rapple Dr., UN 9-7921*
EXCLUSIVE MARINE DIST. MORAN-EVIS CO., SAN FRANCISCO, *420 Market St., DO 2-4565*

If you write maker identify as **IEN-7444**



AVERY *Kum-Kleen* self-adhesive **LABELS**

THE EASIEST AND MOST ECONOMICAL LABEL YOU CAN USE!

- TRADEMARKS
- GUARANTEES
- NAMEPLATES
- DIAGRAMS
- APPROVAL SEALS
- INSTRUCTIONS
- "BUY" FEATURES
- WARNING
- INSPECTION
- PRICES

SAVE YOU TIME – MONEY!

An Avery label specialist will gladly explain how you can use Kum-Kleen pressure-sensitive labels profitably in YOUR business. Mail the coupon now for complete facts.

PATENTED AVERY ELECTRIC DISPENSER

AVERY ADHESIVE LABEL CORPORATION
117 Liberty St., New York 6 • 1616 S. California Ave., Monrovia, Cal.
608 S. Dearborn St., Chicago 5 • Offices in other principal cities

☐ Please send case histories and samples
☐ Tell us about your electric label dispenser
☐ Have the local Avery man call

Name ____
Title ____
Company ____
Address ____

If you write maker identify as **IEN-7447**

Airflex Pneumatic Riveters

Controlled by NOPAK Model "R" Foot Valve

A touch of the foot pedal on the NOPAK model "R" Foot Valve . . . which is coupled to a special timing valve . . . initiates an automatic riveting sequence on this and other models of the Airflex Riveter made by the Lemert Engineering Company, Plymouth, Ind. Operator fatigue is minimized and production is increased substantially by this successful application and precision control of air power.

NOPAK 3- and 4-Way Foot Operating Valves are used in many ways on many different types of equipment for the precision control of air power applied to various machine movements. Ask your NOPAK representative to show you other examples in the NOPAK Application Manual.

GALLAND-HENNING NOPAK DIVISION
2760 S. 31st Street • Milwaukee 46, Wisconsin

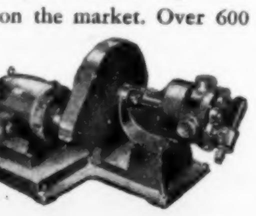
Write for NOPAK Bulletin SW-1
•
Representatives in Principal Cities

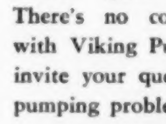
NOPAK
VALVES AND CYLINDERS
DESIGNED for AIR and HYDRAULIC SERVICE

If you write maker identify as **IEN-7450**

We Have The Answers TO YOUR PUMPING PROBLEMS

Every day the Viking sales and engineering staffs answer questions on pumping for a long list of satisfied customers. Many are companies with problems very similar to yours. These questions can be answered correctly because Viking people draw from over 40 years' successful pumping experience and recommend from the fastest-growing, most complete line of rotary pumps on the market. Over 600 standard models plus endless special designs. There's no compromise with Viking Pumps. We invite your questions on pumping problems.





Learn about the complete line of Viking standard and heavy-duty pumps for handling both thin and viscous liquids up to 200 psi. Send for folder 53SF today.

See Our Catalog in SWEETS

VIKING PUMP COMPANY
CEDAR FALLS, IOWA

If you write maker identify as IEN - 7451

FOR CONVEYING UNDER PRESSURE OR VACUUM
STEAM • OIL • WATER • GAS • REFRIGERANTS

MANUFACTURED FROM SEAMLESS TUBING WITHOUT JOINTS, WELDS OR PACKING, WITH HEATPROOF FITTINGS ATTACHED • *FOR HOT OR COLD APPLICATIONS*

WRITE FOR BULLETIN J-3

JOHNSON METAL HOSE, INC.
P. O. BOX 952 • WATERBURY 20, CONN.

If you write maker identify as IEN - 7452

Packaging costs were reduced by as much as one-fourth when the Fafnir Bearing Co. adopted the Stanley Steel Strapping System.

In almost every type of plant—with almost every type of product—substantial savings are being made in packaging and handling by this cost-cutting system. Put it to work for *you*. Call in the Stanley Packaging and Shipping Engineer. He'll install the Stanley Steel Strapping System on a 30-day trial. There's no obligation. Just mail the coupon below. The Stanley Works, Steel Strapping Division, New Britain, Conn. Branch Offices or Representatives in 32 principal cities.

STANLEY STEEL STRAPPING SYSTEM*

Reg. U.S. Pat. Off.

***A MAN** thoroughly experienced in steel strapping applications—the Stanley Packaging and Shipping Engineer.

A METHOD adaptable to any requirement — the Stanley Steel Strapping System, with representatives in 32 principal cities.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

THE STANLEY WORKS, Steel Strapping Division
2043 Lake St., New Britain, Conn.

☐ Yes — the 30-day trial interests me. Have the Stanley Packaging and Shipping Engineer call.

☐ Send me complete information about the Stanley Steel Strapping System.

(Please write name and address in margin of page)

If you write maker identify as IEN - 7454

WRENCH . . Torque limiting head controls assembly of threaded parts

Source: BUFFALO MACHINERY CO.
835-39 Grant St., Buffalo 13, N. Y.

Self-compensating

Type RLH designates a new patented line of torque limiting heads to apply in a rotating power driven spindle for assembly of threaded parts. Five sizes in the line rate 5 to 1,500 in. lb. maximum. Body diameters are about 3¼ to 6½ inches. Each can be equipped with a driving chuck to fit a given work piece, such as the shell fuse assembly shown to the right in the illustration. Each is available with a specified shank to fit in a machine spindle.

The head is designed to compensate for variation in coefficient of friction by automatically adjusting normal force in inverse proportion to the variation. The torque compensating mechanism can be set by means of an Allen wrench. It can be checked by application of a standard torque wrench. The friction plates will then maintain the setting to an accuracy within 5 per cent.

If you write maker identify as IEN - 7455

INSULATING . . Phenolic resin to coat resistors, condensers, coils

Source: DUREZ PLASTICS & CHEMICALS INC.
6 Walck Road, North Tonawanda, N. Y.

Produces dense tough coating

Durez 16382 is a new phenolic resin supplied in powder form. It is mixed with suitable solvents to form a putty like paste of consistency suited for dip application. Work parts are dried at room temperature for several hours, after they have been coated, to eliminate most of the solvent. This interval is followed by baking at 300 to 325 deg. F. for one or two hours to cure the resin binder. Color coatings are obtained by adding soluble dies or pigments to the dipping mix.

If you write maker identify as IEN - 7456

HEAT TREATING . . Pot type furnace, gas fired for liquid carburizing

Source: WALTZ FURNACE CO.
1903 Symmes St., Dept. 6, Cincinnati 6, Ohio

Built to order

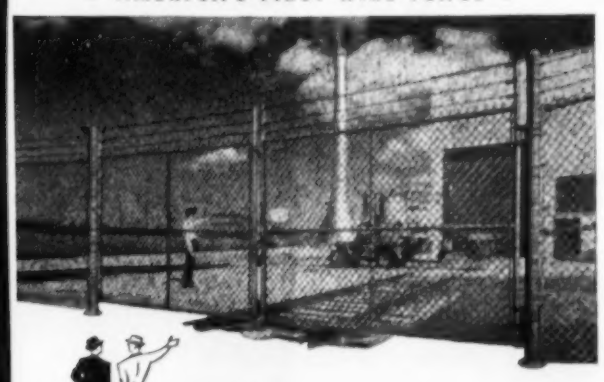
Four burners fire tangentially into the combustion chamber of this new furnace to surround an alloy pot measuring 18 in. in diameter by 24 in. in depth. The furnace stands 40 in. in height. It will maintain temperature at 1,700 deg. F. The furnace is employed with a rectangular combination water and oil quench tank, also shown in the illustration.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7457

PAGE FENCE *Since 1883*

• AMERICA'S FIRST WIRE FENCE •



Don't **blame** yourself for costly loss or property damage caused by lack of property protection. Install sturdy Page Chain Link Fence. It has been providing security against possible disruption of business, vandalism, or many other losses or injuries for more than 60 years. Page Fence is available in heavily galvanized Copper-Bearing Steel, Stainless Steel or corrosion-resisting Aluminum. NOW is the time to consult the skilled Page Fence erecting firm nearest you. For name and address and helpful illustrated fence data . . .

***Write** to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, New York or San Francisco.*

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

If you write maker identify as IEN - 7458

REDUCE HANDLING of Tools, Parts and Materials

Because Stackbins® are portable containers — not fixtures — tools, parts and materials can be carried to departments, from machine to machine, or held in stockrooms without being transferred from one container to another. Stored in Stackracks®, any Stackbin is instantly accessible when its contents are needed — without disturbing any other bin. *Stackbins*—individual hopper-fronted stacking bins, slide like drawers in *Stackracks* — individual units which lock together to form racks of any size, shape or capacity.

STACKBINS IN STACKRACKS

Manufactured and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa

Write Stackbin Corp., 1077 Main St., Pawtucket, R. I.

STACKBIN SYSTEM
"Stacked and Still Accessible"

If you write maker identify as IEN - 7459

no. 1 BUY for handling INDUSTRIAL LIQUIDS!

Here's why a Tokheim is better!

- ***More efficient!*** Even at low temperatures—double-action—no wasted motion.
- ***More useful!*** Handles many liquids of most any viscosity including oil and water.
- ***Safer!*** Eliminates many dangers common to other methods of transfer.
- ***Trouble-free!*** Not affected by ice, dirt, etc.—easily serviced.

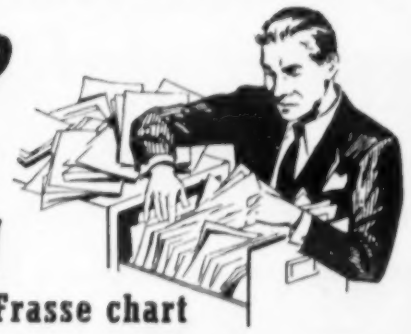
Tokheim is tops with many manufacturers. And for good reasons! Rugged diaphragm construction. Low original cost. Dependable service-free performance. Delivers up to 20 gallons per minute. Offered with optional parts for handling a wide range of liquids. Available with hose or spout outlets for drum, skid tank or underground installations. Call your dealer or your Tokheim representative.

Write factory for literature

General Products Division
TOKHEIM OIL TANK AND PUMP CO.
Designers and Builders of Superior Equipment Since 1901
1654 WABASH AVE., FORT WAYNE 1, IND.
Factory Branch: 1309 Howard Street, San Francisco 3, Calif.

If you write maker identify as IEN - 7460

STOP "Spec" hunting with new Frasse chart



THE NEW Frasse chart on carbon steel "specs" permits you to identify a steel requirement in seconds. It saves you valuable time normally lost hunting through individual "specs."

Compiled by Frasse Technical Service, the chart shows chemical analysis requirements for each of 60 Military, Army, Navy, Aeronautical, and Federal specifications. Also lists specified forms (sheets, bars, etc.) and nearest corresponding SAE, AISI and AMS type numbers.

You can tack it on the wall, file it in your desk drawer, or slip it under glass for ready reference. Send for your free copy of this handy chart today.

Call FRASSE 1st for Alloy, Stainless and Carbon Steels and Tubing

Peter A. FRASSE and Co., Inc.

17 Grand Street, New York 13, N. Y.

Lyndhurst • Philadelphia • Buffalo • Syracuse

If you write maker identify as IEN - 7461

JOHNSON BEARINGS in over 900 standard sizes

• You can secure virtually any size sleeve bearing you need from your local Johnson Bearing Distributor. He handles the widest range of sizes on the market . . . from ¼ inch to 4½ inch ID, the wall thickness you need and the right length. You'll save time with Johnson General Purpose Cast Bronze Bearings . . . and save money, too.

JOHNSON BRONZE CO.
476 So. Mill St., New Castle, Pa.

OTHER BEARING TYPES
Electric Motor • Graphited • Self-Lubricating Powder Metallurgy • Universal Bronze Bars • Babbitt.

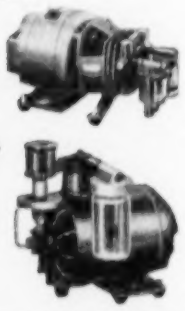
JOHNSON BEARINGS
Sleeve-Type

WRITE TODAY for your copy of the new catalog

If you write maker identify as IEN - 7462

two handy packages-- these GAST rotary-vane INTEGRAL-MOTOR AIR PUMPS

Standard Model 0210, ¼ H.P., 1.3 C.F.M. to 25 P.S.I. or 27" vacuum. Oil-less Model, to 10 P.S.I. or 15" vacuum.



Model 0320, ⅓ H.P., 2.5 C.F.M., to 25 P.S.I. or 28" vacuum.

You can solve many an air-pump requirement—vacuum or pressure—with one of these "handy packages." For Gast *integral-motor* Air Pumps are widely used as original equipment by engineers who require smooth, dependable performance in a compact, space-saving unit.

The smaller Model 0210, a highly popular unit, supplies vacuum for engraver's printing frames, feeding devices, laboratory use, etc., in either lubricated or oil-less models.

For vacuum to 28" in low volume applications, Model 0320 is used for production line testing for leaks, for punch press feeding devices, etc. There are scores of uses for these "packaged" integral-motor pumps.

see our catalog in PRODUCT DESIGN FILE or write for copy

Write for Catalog and Application-Ideas Booklet

Original Equipment Manufacturers for Over 25 Years

GAST ROTARY AIR MOTORS (TO THREE H.P.) · COMPRESSORS (TO 30 LBS.) · VACUUM PUMPS (TO 28 INCHES)
GAST MANUFACTURING CORP., 119 Hinkley St., Benton Harbor, Mich.

If you write maker identify as IEN - 7463

accurately controlled electric heat

HEATING LIQUIDS
MELTING SOLIDS
in Tanks and Vessels

WATLOW IMMERSION HEATERS

The most efficient method of heating fluids in tanks, kettles, steam tables, boilers, etc. Watlow Units are designed for low internal operating temperatures —which results in maximum life. Available in brass, steel or nickel alloy, also stainless steel sheaths, for maximum corrosion resistance. Standard sizes: ¾" to 2" dia.; 3½" to 60" lengths; 10W-35W densities. Special sizes and shapes built to your specifications.

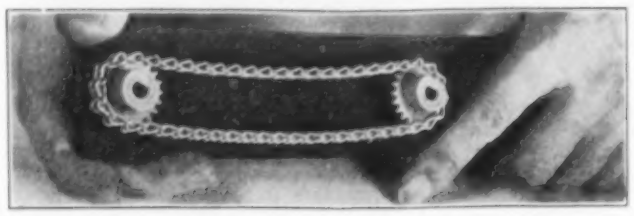
Send for your free copy of *Watlow Electric Heating Units Catalog*

WATLOW
Since 1922—Designers and Manufacturers of Electric Heating Units
ELECTRIC MFG. CO.
1370 FERGUSON AVE.
SAINT LOUIS 14, MO.

If you write maker identify as IEN - 7464

DRIVE . . Transmission chain, wire links, for small mechanisms

Source: HODELL CHAIN CO.
3922-26 Cooper Ave., Cleveland 3, Ohio



Technical advice on request

Precision manufacture enables the company to produce a new Sprocket Chain made of wire links sufficiently accurate to drive equipment such as motion picture cameras, projectors, vending machines, recorders, mechanical toys. The chain is made of high tensile or regular wire in gages ranging from No. 21 with 82 links per ft. to No. 16 with 34 links.

If you write maker identify as IEN - 7465

SEALING . . Air hardening compound to stop small leaks in an oil tank

Source: LAKE CHEMICAL CO.
3050-54 W. Carroll Ave., Chicago 12, Ill.

Supplied in stick form

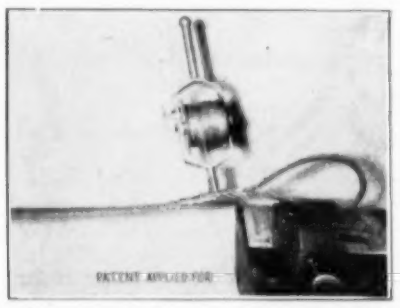
Oyltite-Stik is a new compound, in stick form, to stop small leaks in oil or gasoline tanks. It will stop the leak while the oil is still running, will make a leak proof seal under moderate pressure. It is particularly suited for use as an emergency repair.

Recommended procedure is to cut a small amount of the material from the stick with a pen knife and then to press it into the crack. Packaging is one dozen sticks to a unit container at a list price of $8.50. Single sticks list at $1.50.

If you write maker identify as IEN - 7466

WRAPPING . . Serving tool to bind wire rope splices and ends

Source: S. W. ELLIOTT & SON
1255-59 Jordan Ave., Montoursville, Pa.



Makes a hard job easy

Interchangeable spools, carrying wire, strand, hemp, apply in the housing of this new tool to hold at an adjustable tension while the tool is rotated around a wire rope splice to wrap and bind it securely. The spool measures 4¾ by 3 by 1¾ inches. It holds about 5 lb. of wire. Overall tool length is 15½ inches. Weight is a little over 2½ lb. with an empty spool. Three sizes of steel head thread on the bottom to guide the wire, strand or hemp.

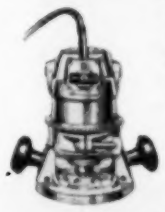
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7467

Free MANUAL for CARPENTERS & WOODWORKERS

SEND FOR YOUR COPY

48 Pages *telling* HOW — WHEN — WHERE to use a Portable ROUTER



Heard About Porter-Cable's Amazing New Router Chuck? It's the sensation of the tool industry! Works on an entirely new principle. Exclusive Kamgrip Chuck grips the bit tighter — keeps it aligned — prevents shank galling — assures accurate cuts!

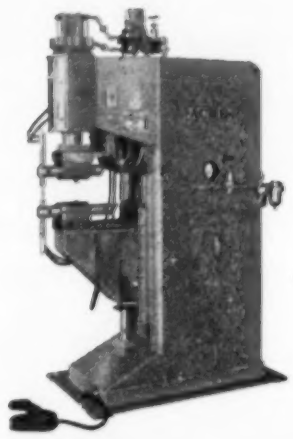
Standard on both models plus more powerful motors, oversized sealed bearings Dial-O-Matic depth adjustment.

NEW LOW PRICES! Model 511, 22,000 rpm — $125.00
Model 514, 20,000 rpm — $209.00

PORTER-CABLE Machine Co.
1647 N. Salina St., Syracuse 8, N. Y.
Manufacturers of Speedmatic and Guild Electric Tools
In Canada write: Strongridge, Ltd., London, Ont.

If you write maker identify as IEN - 7468

ACME "Hot Spot" WELDERS



Here is a complete line of resistance welders, considered the "Cadillac" of its field—at a price you can afford, and backed by over 35 years of service in plants throughout the world. Write for literature or name of your nearest distributor.

- SPOT
- PRESS
- PROJECTION
- SEAM
- PORTABLE
- SPECIALS

ACME ELECTRIC WELDER CO.
2622 FRUITLAND AVE., LOS ANGELES 58, CALIF.

If you write maker identify as IEN - 7469

Really Free Turning BALL BEARING SWIVEL FITTINGS

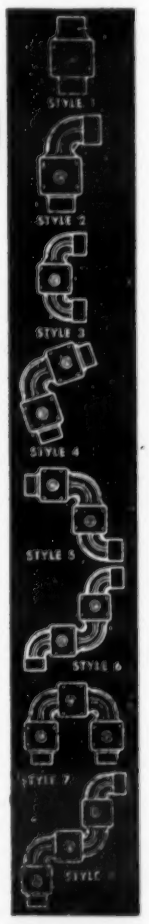
RAMSCO

FOR LIQUID GASES, STEAM, AND CHEMICALS. HOT OR COLD SERVICE. CONTINUOUS OR OCCASIONAL ROTATION.

360° FREE ROTATION—1, 2 AND 3 PLANES
FITTINGS AND PRESSURES TO 15,000 P.S.I. AND TEMPERATURES TO 750° F.

Over 500 sizes, types, styles. Low pressure fittings ⅜" to 14". High pressure and high temperature ⅜" to 6". Universal service (U. S. type) fittings and pressures to 1,000 psi. Temperatures to 750° F. asbestos packed. When packed with teflon ideal for corrosive service. Gear driven types for loading racks also available.

Send for complete catalog and prices. State kind of service, pressure, temperature, pipe size and indicate style at right, threaded, flanged or weld ends.



RAMSCO
RASMUSSEN MFG. CO.
12305 INDUSTRIAL AVENUE
HOLLYDALE, CALIFORNIA

If you write maker identify as IEN - 7470

drills 6 inches of concrete per minute

...gives lowest cost per foot of concrete drilled with a

tilden ROTARY KONKRETE KORE DRILL

Patented core slot expels cuttings *automatically*

U. S. Pat. No. Re. 23539

Drill straight, clean, ready-to-use holes at speeds up to 6 inches per minute—even through steel reinforced concrete. TILDEN Rotary Koncrete Kore Drills can be used with ordinary electric or rotary air drill. Free Factory sharpening and repair service still available on all Standard TILDEN Drills from 3/16" to 8-inch diameters. Interchangeable shanks for any depth hole.

WRITE TODAY for free, illustrated catalog.

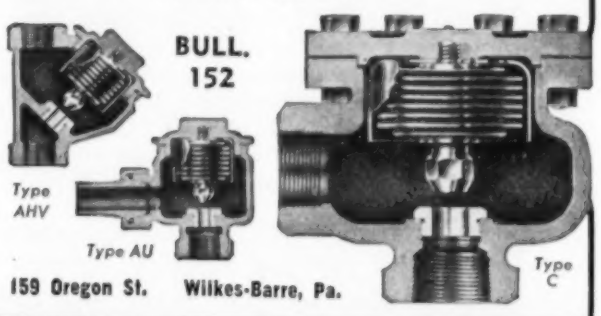
SOLD BY SUPPLY HOUSES EVERYWHERE

TILDEN TOOL Manufacturing Company
209 Los Molinos • San Clemente, Calif.
Branch: 7111 North Glenwood, Chicago 26, Illinois

If you write maker identify as IEN - 7471

Nicholson Steam Traps'
LARGER ORIFICE SAVES 4 WAYS
for This Firm

A large mid-West plant recently was able to replace 1¼" mechanical traps with Nicholson ¾" thermostatic traps. Because, with much larger valve orifice, Nicholson traps feature 2 to 6 times average drainage capacity. In addition to "excellent" heat transfer results, they find the smaller traps cut these 4 costs: traps, installation, piping, and steam cost (radiation). 5 types: size ¼" to 2"; press. to 250 lbs.

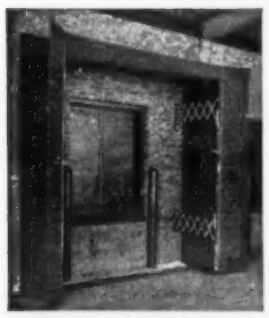


159 Oregon St. Wilkes-Barre, Pa.

W. H. NICHOLSON & CO.
TRAPS · VALVES · FLOATS

If you write maker identify as IEN - 7472

CAPCO DOCK COVERS OFFER YEAR 'ROUND PROTECTION



Can be installed inside or outside of dock door . . . models for various purposes.

SOLD AT A LOW COST

...and the cost is especially low because it pays for itself many times...saves time and money over many years.

- PREVENTS ACCIDENTS
- ONE MAN CAN OPERATE
- FIREPROOF
- WATERPROOF
- DURABLE — LONG LIFE
- DEPENDABLE

BEAT THE BAD WEATHER

CAPCO Dock Covers completely enclose the space between car and building doorways, protecting loading and unloading during bad weather. Recommended by safety engineers. No more wet merchandise in the rain . . . no more interruption during winter. Here's your insurance against loss of either heat or refrigeration; you have practically the same as indoor loading.

CAPCO

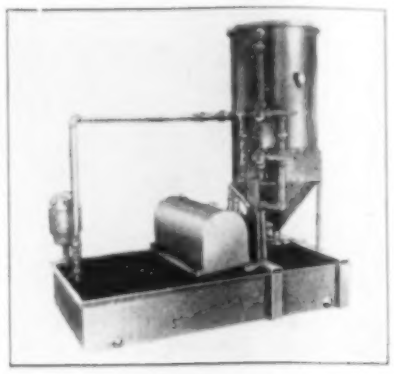
Be sure to write for illustrated literature and prices

622-24 PROSPECT AVENUE • KANSAS CITY 1, MISSOURI

If you write maker identify as IEN - 7474

FILTERING . . Coolant clarifier for mineral oil and water base fluids

Source: HONAN-CRANE CORP.
510 Indianapolis Ave., Lebanon, Ind.



16,000 square inches

Coolant contaminated with chips, abrasives, dirt, flows by gravity to a dirty oil compartment to the left in the base of this new Houdaille "J" clarifier. The dirty liquid is picked up from there by a motor driven pump, mounted in one corner of the compartment, and is delivered through a valve equipped line to fill the clarifier tank and surround a set of screened filtering tubes.

Foreign matter is stopped on the outside of the tubes. The coolant passes through and is delivered to a clean oil compartment, to the right in the base. It is connected here to be recirculated by the coolant pump on the equipment being served by the clarifier.

Valves in the flow line can be set to reverse the flow so clean oil enters the top of the filter housing, passes down through the tube centers and issues through them to wash the collected contaminants from the tubes. This material flows as a sludge to the bottom of the housing where it issues into a sludge basket for removal to waste.

If you write maker identify as IEN - 7475

PRESS . . Hand hydraulic assembly for bending, forcing, straightening

Source: OWATONNA TOOL CO.
371 Cedar St., Owatonna, Minn.

Bulletin HY-1953

New application of the Power-Twin hydraulic puller and its hand operated pump provides an assembly rating 30 ton. The 24-in. ram screw permits quick adjustment to the work. Power travel is 2½ inches. The ram can be detached from the machine for use with other pushing and pulling equipment in the complete line. A motor driven pump can be specified in place of the hand pump if desired.

The clearance be- the new Y300-A assembly, is 17½ inches. Distance from the top of the press plate to the floor is 33½ in. and from the ram to the top of the press plate is 12 inches. The upper press plate throat measures 8 in. in width by 7½ in. in depth.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7476

SPEEDY AIR VISE

SPEEDS UP
✓ MILLING ✓ PUNCHING
✓ DRILLING ✓ BENDING
✓ TAPPING ✓ RIVETING

GRIPPING FORCE 15 TIMES AIR LINE PRESSURE

Speedy Air Vise helps you do dozens of operations faster, better, cheaper—by air pressure! Foot control valve opens and shuts vise instantly, leaving *both* hands free to produce *more!* Jaw opens up to 3 inches, holds castings, parts, jigs, etc. Compact and trouble-free.

Complete with Foot Control, Air Hose and Fittings.....only **$36.00**

Prompt Delivery from Your Supplier or Write Direct

W. R. BROWN CORPORATION • 2645 N. Normandy Ave., Chicago 35, Ill.

AIR REGULATORS · AIR FILTERS · AIR GUNS · PORTABLE COMPRESSORS

If you write maker identify as IEN - 7477

HYDRAULIC DESIGN MADE EASY!

This Hannifin catalog gives complete engineering and design data on 11 Hydraulic cylinder mounting types, 1" to 8" bore, with or without cushions—styled to meet every requirement. Interchangeability of collars and caps makes possible unlimited combinations. Send for your copy of this valuable reference.

WRITE FOR BULLETIN 110.

HANNIFIN

Hannifin Corporation • 1107 S. Kilbourn Ave. • Chicago 24, Illinois

If you write maker identify as IEN - 7478

New XL BOND
FOR CARBIDE TOOL AND CUTTER GRINDING

"XL" is Chicago Wheel's exclusive new bond for silicon carbide vitrified grinding wheels, especially made for grinding carbide cutting tools. Ideal for rough and finish grinding . . . offhand or precision automatic. Supplied in most popular sizes and steel backs. Prompt delivery. Keep your production up . . . costs down, with "XL."

Write today for information—Dept. N

CHICAGO WHEEL & Mfg. Co.
1101 West Monroe St., Chicago 7, Illinois
OFFICES IN PRINCIPAL INDUSTRIAL CENTERS

If you write maker identify as IEN - 7479

A New 2-in-1 TAPE

- INSULATES
- PROTECTS

All in One Neat Operation

- 2-way Stretch
- High dielectric
- Fits snugly
- Insulates perfectly
- Saves space
- Sticks tight
- Long life

Saves work on many jobs—does the work of both friction and rubber tape. Resists abrasion. Resistant to weather, oils, greases and many corrosive chemicals. Two sizes ¾" x 20' and ¾" x 60'.

TRY IT FREE!

IDEAL INDUSTRIES, Inc.
1108 Park Avenue, Sycamore, Illinois

Please send me FREE sample of IDEAL Electrical Tape.

Name _____
Company _____
Address _____
City _____ Zone ____ State _____

If you write maker identify as IEN - 7480

NEW T-J

Spacemaker

AIR CYLINDERS

Saves up to 40% Space!

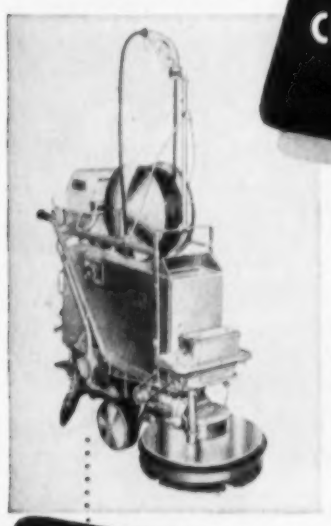
Streamlined construction of the new T-J Cylinders *eliminates tie rods . . . reduces head size . . .* and *saves up to 40% in mounting space!* In addition, a new high in strength is achieved with solid steel heads and heavy wall seamless steel body . . . leakproof construction . . . extra high safety factor. Cylinder walls are precision honed and hard chrome plated for long-life efficiency. Available with new T-J Super Cushion Flexible Seals. Many standard sizes and styles . . . cushioned and non-cushioned . . . for pushing, pulling, lifting, clamping or control jobs. Write for bulletin 8152. The Tomkins-Johnson Co., Jackson, Michigan.

37 YEARS EXPERIENCE T-J

TOMKINS-JOHNSON

If you write maker identify as IEN - 7481

Self-Propelled SCRUBBER-VAC . . . . . CUTS CLEANING TIME 2/3!



For **Small-Area Factories (2,000 to 15,000 sq. ft. of floor)**

The *418P Finnell Scrubber-Vac* cleans floors in about *one-third the time* required with a conventional 18" scrubber-polisher. Also handles the dry work—polishing, steel-wooling, etc. No switches to set for *fast* or *slow*. 18" brush ring. *Quiet* vac. The machine can be leased or purchased.

Applies cleanser, scrubs, and picks up—in ONE operation!

FIND OUT WHAT YOU WOULD SAVE . . . with a *Finnell Scrubber-Vac. Finnell* makes several models and sizes. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 2607 East Street, Elkhart, Indiana.

FINNELL SYSTEM, INC. 50 FINNELL BRANCHES IN ALL PRINCIPAL CITIES

Originators of Power Scrubbing and Polishing Machines

If you write maker identify as IEN - 7482

STAHMER WOOD SOLE *Safety* SHOES

Steel Mill Shoe Style 250 — Meat Packers' Shoe Style 215 — Chemical Plant Shoe Style 1230

Oil Refiners' Shoe Style 203 — Shower Sandals — Hot-Foot Sandal Fits over regular shoe

PROVIDE UNEQUALED PROTECTION

Stahmer Wood Sole Safety Shoes with genuine leather uppers are resistant to cold, heat, water, dust, oil and acid. Superior to leather and rubber in many industrial operations. Healthier employees. AVOID SLIPPING. They cost less and wear much longer. Sizes for men and women—5 to 12. Safety steel toe optional.

Send for catalog

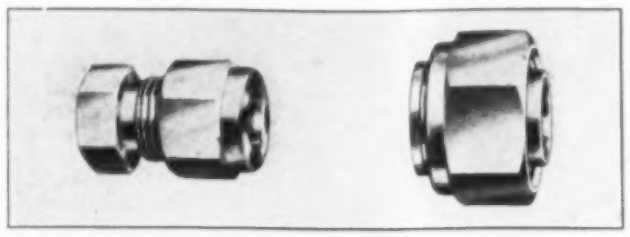
STAHMER SHOE CO.

Established 1900 DAVENPORT 11, IOWA

If you write maker identify as IEN - 7483

TUBE FITTING . . Threaded connector, clamps on tube, sizes 1/8 to 1 inch

Source: CRAWFORD FITTING CO.
882-86 E. 140th St., Cleveland 10, Ohio



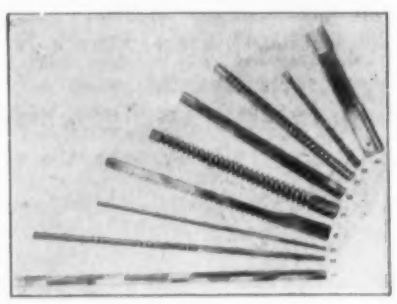
Swagelok Cap — Swagelok Plug

Two new fittings have been added to the Swagelok line, previously described IEN-11308-49. The unit to the left is a cap to cover the end of a tube. The one to the right is a plug to close the unused port of a fitting. Both are supplied assembled and require only 1¼ turns with a wrench to provide a tight leak-proof seal. Materials, available to specification, include aluminum, brass, Monel Metal, steel and stainless steel. Each fitting grips the tube by compression.

If you write maker identify as IEN - 7484

BROACHING . . Special cutters available quickly to previous designs

Source: DU MONT CORPORATION
du Mont St., Greenfield, Mass.



Each was a special

The company announces availability, on quick delivery, of a considerable range of broaching cutters that have been previously designed, produced and tested. A representative few of the available units are shown in the illustration.

The new service applies to cutters having sections of 20 in. or less, overall length of 36 in. or less and to square broaches not smaller than ¼ in. across the flats. Round broaches, spline broaches, rifling broaches and those having irregular shapes are not included.

Identify as IEN - 7485

Vapor-Clarkson steam generator, supplied by Vapor Heating Corporation, 4503 W. 16th St., Chicago 28, Ill., supplied the 400-lb. steam to conduct a rock drilling test with the new Bassinger impact drill. The drill measured 4½ in. in diameter. It drove through granite at the rate of 45 feet per hour. The drill employs a carbide-tipped head and operates in a double acting cylinder and piston assembly that strikes about 3,000 blows per min. in a 4-in. piston stroke. Exhaust steam issues through a center hole in the drill to drive the drillings out and keep the hole face clear. The steam generator burns fuel oil, comes up to 400-lb. pressure in three minutes from a cold start. It produces 1,000 to 3,000 lb. of steam per hour.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

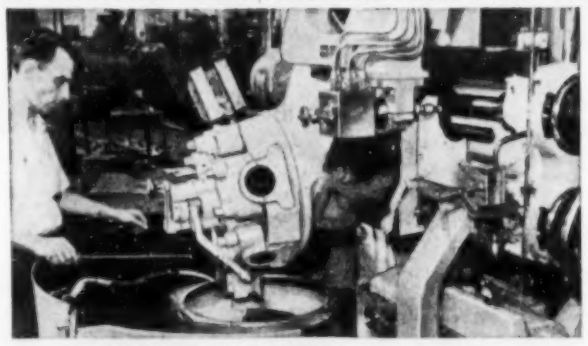
If you write maker identify as IEN - 7486

Turchan

has what industry needs in the trend to

Automation

with TRACER-CONTROLLED machine tools



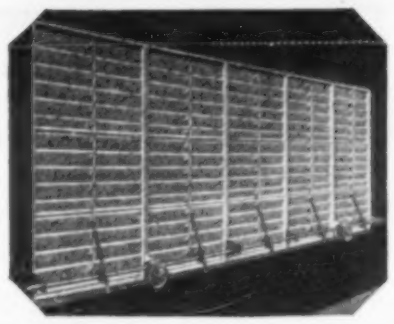
- Standard or special machine tools go automatic
- Produce more work, faster, at repetitive accuracy
- Simplify difficult jobs, reduce set-up time
- Eliminate rejects, force down production costs

Write Us for Information

TURCHAN FOLLOWER MACHINE CO.

8259 Livernois Avenue • Detroit 4, Michigan

If you write maker identify as IEN - 7487



BURT WALL LOUVERS ARE NECESSARY EQUIPMENT FOR ALL GRAVITY OR FAN VENTILATORS

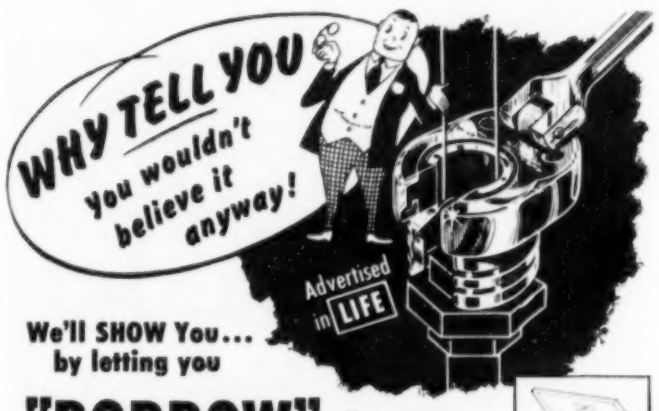
Burt Wall Louvers replace vented air efficiently yet harmonize with modern building architecture. Burt's complete line includes economical general purpose louvers, fixed types, adjustable designs, combination louvers and industrial types. They may be erected singly or in banks. Removable screens and various types of louver operators are available. See Sweet's for further data or write for Bulletin SPV-17.

FAN & GRAVITY VENTILATORS • LOUVERS • SHEET METAL SPECIALTIES

The Burt Manufacturing Company

909 S. High St., Akron 11, Ohio

If you write maker identify as IEN - 7488



We'll SHOW You . . . by letting you

"BORROW" the new

TAC OPEN END RATCHET WRENCH

"OLD HAND" production line and maintenance men often simply can't believe their eyes when watching TAC in action. Slashes wrenching time to a mere fraction—because open end ratcheting head works like a human hand . . . slips around tubing and down on fitting . . . then ratchets "on" or "off" in seconds. Designed for wrenching in close quarters; can often save hours of tearing down to gain access for conventional tools.

So, "BORROW" a wrench; try it as you will—prove its value. Send request on company letterhead—we ship on memo billing—returnable for full credit. ACT NOW! KNOW THE FACTS!

TAC

Send for New Catalog

TUBING APPLIANCE COMPANY

10321 Anza Avenue, Los Angeles 45, Calif. Dept. 18

If you write maker identify as IEN - 7489

"SHADE"

Remarkable Vinylite Sheeting that

ABSORBS Heat and Glare

SHADE will never become brittle or crack even in temperatures from -25 to 150 F. All you need is a squeegee, a bucket of water, and some pieces of factory pre-cut SHADE to eliminate glare and heat. Easy to apply, permanent and washable, SHADE is custom cut to fit your windows—Order yours today!

The unfiltered rays of the sun, even on a cloudy day, can be a major cause of fatigue. SHADE is a specially formulated compound to filter light!

NO MORE PAINTING
No need for repeated painting of glass surfaces: with SHADE you have an easily applied filter, *bonded* to the glass. It won't crack or grow brittle.

EASY TO APPLY
Application requires no special skill or tools. It is pre-cut at the factory. Wet, place polished side to glass, squeegee out excess water.

PERMANENT
Following out this procedure will effect a permanent bond. SHADE will *never* come off until you pry up a corner and strip it off yourself.

WASHABLE
Can be washed like regular glass. If you wish to remove it, a quick washing in warm water will restore its adhesiveness.

COLOR CHOICES
Colors are available in FROSTED TRANSLUCENT, ARCHITECTURAL BLUE, FILTERED WHITE, OLIVE GREEN, TRANSLUCENT GREEN, BLACKOUT BLACK, & TRANSPARENT BLUE

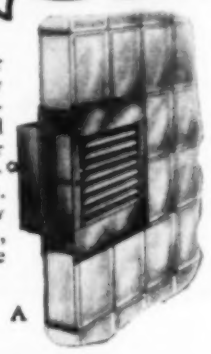
TRANSEAL, Ltd.

PLainfield 6-3800

Dept. IEN, 821 North Ave., Plainfield, N. J.

If you write maker identify as IEN - 7490

Perk up- fresh up- with F A I- fresh air inside! Get efficiency with economy by installing MUCKLE FRESH AIR INTAKES — they'll supply fresh, filtered air to each room and condition your plant for *top* efficiency without the expense of costly distribution ducts. Muckle Intakes contain inverted v baffels to arrest direct blow through, oiled spun glass filters and adjustable closing louvers on inside.



Model A fits easily into glass block construction by removing 4 blocks. Model B fits any wall thickness. Both models have air opening of 10" x 14" and pass 1000 CFM at .0625" static air pressure.

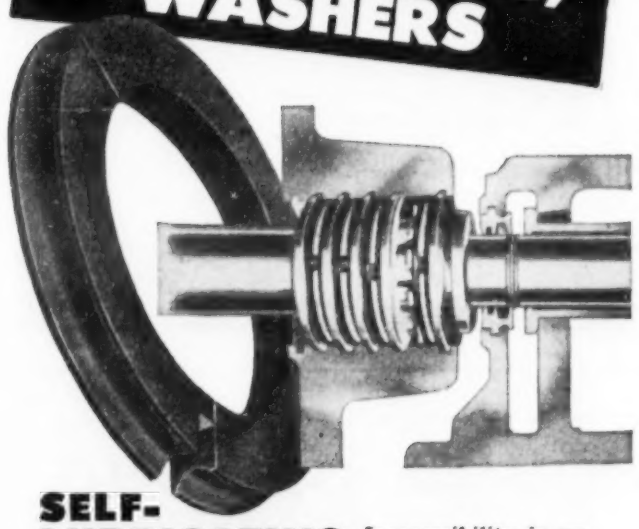
Muckle

WRITE TODAY
For complete information on Muckle Fresh Air Intakes.

MANUFACTURING CO., OWATONNA 33, MINN.

If you write maker identify as IEN - 7491

MORGANITE
HIGH PRESSURE
SEALS, RINGS, WASHERS



SELF-LUBRICATING
Turbine Seals

- HOLD LIVE STEAM AT HIGH PRESSURE
- FUNCTION WITHOUT LUBRICATION
- RESIST CORROSION

Inaccessibility is no factor because they have inherent self-lubricating qualities which last for the life of the seal. Full retention of steam from cold start to full load is assured. Specify Morganite Seals Rings and Washers for maximum operating efficiency and minimum shut-down time. Morganite Incorporated, Long Island City 1, New York.

Send your high pressure sealing problems to —

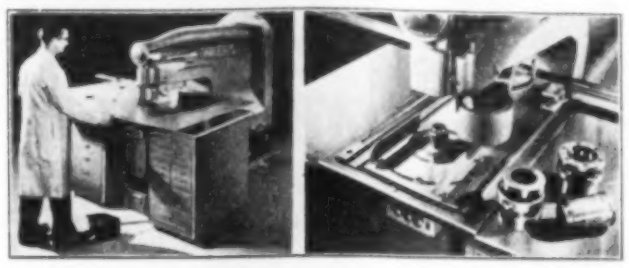
Morganite INCORPORATED
TRADE MARK

Manufacturers of SELF LUBRICATING CARBON SPECIALTIES, CARBON BRUSHES, CARBON PILES

If you write maker identify as IEN - 7493

PUNCHING . . Motor driven machine also notches, nibbles, steel to 1/4 in.

Source: WALES-STRIPPIT CORP.
361 Payne Ave., North Tonawanda, N. Y.



Concentrated press shop

Heavy duty construction and a 27-in. throat, with the back gage, or 30½ in. throat without it, characterize this new Model 10-C Sheet Metal Fabricator. It represents further development of the machine previously described IEN-4232-50. As in the original design, the punch assembly holder arm swings to the right to interchange punches. They and the dies are aligned by means of this holder. The machine will punch holes to 3½ in. in diameter. Back and side gages are equipped with built-in scales for hole location. Work table dimensions measure 56 by 37 inches.

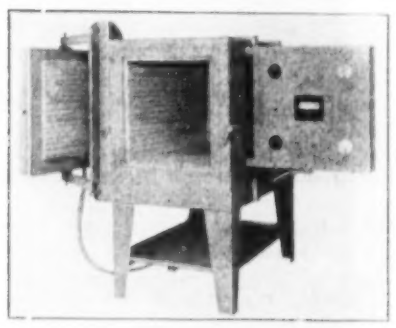
The machine is designed to take the company's standard Type-BL hole punching units and Type-NA notching units. Assembly includes a lever on the right hand side of the housing to engage the drive for uninterrupted operation, as in nibbling. An extended holder permits the work to swing at a center point to nibble circles and semi-circles. Operation is at 165 strokes per min. for single hole punching and nibbling.

Dual control includes an adjustable foot trip mechanism for use when the operator needs both hands on the work. A hand lever is depressed for each stroke in normal single stroke operation. A light illuminates the work, turns on when the machine starter button is pressed. This light also signals that the machine is in running order. The cabinet housing contains drawers to hold punch assemblies and dies. Each drawer can be labeled.

If you write maker identify as IEN - 7494

HEATING . . Electric furnace for temperatures to 2,300 degrees F.

Source: L & L MFG. CO.
134-38 8th St., Upland 21, Pa.



Built to order

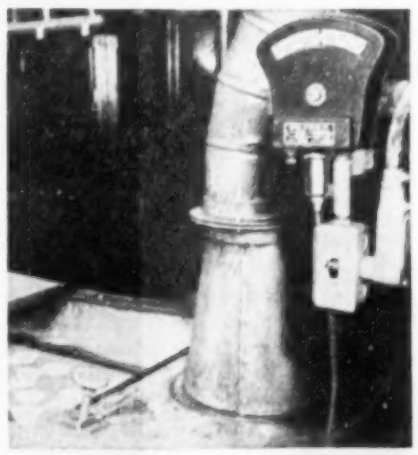
Illustrated is Model F-248 in the recently improved line of Dyna-Glow electric furnaces. The construction includes zone input control to enable the operator to adjust for varying loading conditions. The elements are quickly replaceable. The furnace is suited for a variety of heating applications. The work chamber in the assembly shown measures 24 by 48 by 24 inches. The housing is insulated. The door is mounted on pivoted arms to swing clear of the opening.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7495

Wax Impregnating milk bottle caps with help of simple Electric Temperature Control

Our picture shows one of five bottle cap machines in the plant of American Seal-Kap Corporation, Long Island City, N. Y., equipped with Sarco type LSI electric temperature controllers.



These simple indicating control instruments maintain temperature in the wax pots at 210°F. within plus-minus 3°F, night and day, without attention.

Two normally closed switches, set 2°F. apart, operate two solenoid valves in parallel in the steam supply to the heater. For heating up, both valves are open. When the temperature is within 2°F. of the desired level, the larger valve closes, the smaller one alone continuing the control.

Result: No temperature override, no compressed air to fuss with, no charts to change.

For full details write for Bulletin 1025-5 to **Sarco Company, Inc.** Empire State Bldg., New York 1, N. Y.

Advt. 610

If you write maker identify as IEN - 7496

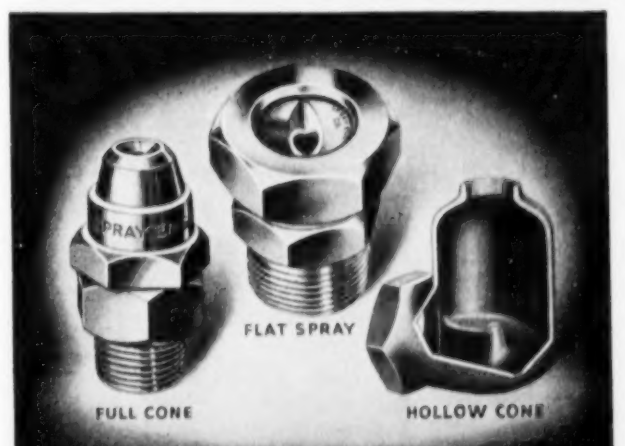
- 130" Extreme Lift
- 59½" Free Lift
- 60" Turning Radius

Mercury JEEP
MODEL 230
2000 Lb. Capacity
Tilting — Tiering

The most versatile fork truck of 2000 lb. rating. 130" lift with ample stability...60" turning radius *plus* inclined automotive steering...foot pedal acceleration . . . convenient controls and many other design advancements. For complete details request Bulletin 295.

MERCURY MANUFACTURING COMPANY
4132 S. Halsted Street • Chicago 9, Illinois

If you write maker identify as IEN - 7497



SPRACO NOZZLES

Write for NOZZLE CATALOG *to*
SPRAY ENGINEERING CO.
110 CENTRAL STREET • SOMERVILLE 45, MASS.

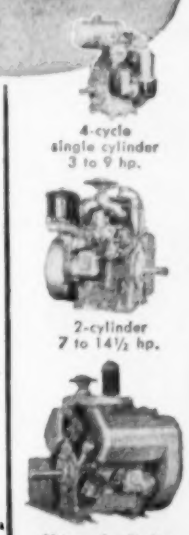
If you write maker identify as IEN - 7498

WISCONSIN
The Name that Stands for
HEAVY-DUTY *Air-Cooled* **ENGINE POWER** *at its Best!*

Machinery builders who know the value of dependable, climate-proof engine power base their selections of Wisconsin Heavy-Duty Air-Cooled Engines on such factors as heavy-duty construction, low-cost operation and maintenance, Air-Cooling that provides trouble-free service in all locations, easy starting, and readily available replacement parts when needed, through a reliable source.

Wisconsin Motor Corporation is the world's largest manufacturer of Heavy-Duty Air-Cooled Engines, from 3 to 36 horsepower, in 4-cycle single cylinder, 2- and 4-cylinder types. These engines have been used successfully for many years on a great variety of power applications. Here is dependable power to *fit the machine* and *fit the work* for which the machine is designed . . . *heavy-duty engine power at its best!*

Write for detailed information.



MOST H.P. HOURS

WISCONSIN MOTOR CORPORATION
World's Largest Builders of Heavy-Duty Air-Cooled Engines
MILWAUKEE 46, WISCONSIN

If you write maker identify as IEN - 7499

PILLOW BLOCK
BALANCING WAYS

Built in
1,000
2,000
5,000
10,000
20,000
Capacities

Especially suited for large diameter work, as a sub-base can be made of proper height to give necessary clearance for work. Anderson Pillow Block Balancing Ways are precision built with chilled iron discs which rotate with minimum friction on sensitive special bearings. Many manufacturers have endorsed them for efficient, static balancing.

ROCKFORD Anderson BROS. MFG. CO. ILLINOIS

Write for Bulletin No. 7-35

ANDERSON BROS. MFG. CO., Rockford, Ill.

Balancing Ways, Roto Checkers, Hand and Power Scrapers, Spotters, Hand and Power Hydraulic Straightening Presses.

If you write maker identify as IEN - 7500

MODERN TIME AND COST SAVERS
BUILT BY... Standard GRAVITY & POWER CONVEYORS

LIFT OR LOWER— FLOOR TO FLOOR WITH A

STANDARD INCLINEBELT

Move boxes, cases, cartons, sacks or bundles from basement to first floor, or any floor to floor — continuously with the Standard Inclinebelt. Compact — simple to install — minimum maintenance and attention. Lifts or lowers 10 to 20 lbs. of live load per ft.; floor elevations of 8 ft. to 14 ft. 6 inches inclusive; two belt widths to handle commodities 15½ inches to 25½ inches wide. Electric motor operated. Write for INCLINEBELT Bulletin — address Dept. IEN-73.

STANDARD CONVEYOR COMPANY
General Offices: North St. Paul 9, Minn.
Sales and Service in Principal Cities

If you write maker identify as IEN - 7501

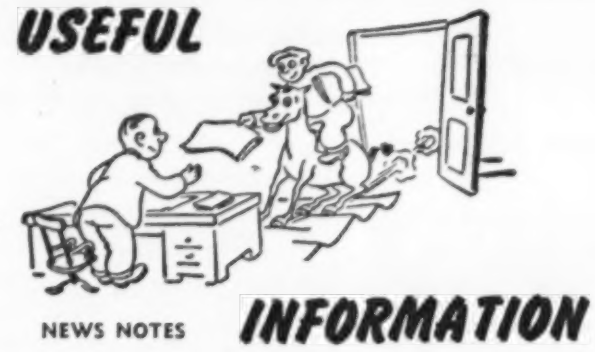
Fire Alarm Systems for OUTSTANDING DEPENDABILITY

Designed to operate unfailingly when needed, even years after installation, Couch Fire Alarm Systems assure positive, dependable protection of life and property.

If your plant requires:
- a simple evacuation alarm
- a coded alarm which locates the fire
- a tie-in with municipal alarms

Couch Fire Alarm Systems are the ideal solution. Write today for Bulletin 5211.

Simplified Systems of Communication
S.H. Couch Company, Inc.
NORTH QUINCY 71, MASSACHUSETTS



USEFUL INFORMATION
NEWS NOTES

If you write maker identify as IEN - 7502

ALLOY IRON . . Heat treatment booklet describes principles and methods for Meehanite Metal

Meehanite Metal Corp.
712-16 North Ave., New Rochelle, N. Y.

Annealing, hardening, martempering, austempering and surface hardening are described in detail by new 44-page Bulletin 40, "Principles of Heat Treatment." The booklet uses equilibrium diagrams, curves and microphotographs on procedures and reasons. Pictures show application examples.

If you write maker identify as IEN - 7503

ALUMINUM . . Welding instruction book describes gas and electric methods, brazing, soldering

Reynolds Metals Co.
2502 S. 3rd St., Louisville 1, Ky.

Letterhead request will bring you a copy of 186-page recently-revised manual, "Welding Aluminum", if you are an engineer, designer, technical man or company executive. The book describes 34 processes for welding, brazing and soldering aluminum and its alloys. Percussion welding, cold welding, induction brazing, aluminized steel are typical.

If you write maker identify as IEN - 7504

BEARINGS . . Circular cardboard calculator for ball thrust bearing loads, speeds, life expectancy

Aetna Ball & Roller Bearing Co.
4602 Schubert Ave., Chicago 39, Ill.

"Bearing Calculator" is intended to assist in bearing selection by computing load, speed and life as required in a given installation into terms of rated bearing capacities. On the back is a picture list of the company's standard ball thrust bearing types with condensed specifications on each.

If you write maker identify as IEN - 7505

ELECTRIC CONDUCTORS . . Plastic slide selector reads sizes, weights, capacities of electric wire and cable

Hatfield Wire & Cable Division
489-93 Hillside Ave., Dept. 15, Hillside, N. J.

Letterhead request will bring you a copy of the new 6½ by 3-in. "Wire Data—Wire Weight Computer". You move its slide to read current-carrying capacities for building wire and power cable, circular-mil areas for wire from No. 14 to 1,000,000 cm., voltage-drop data, conduit sizes for two to six wires, wire size for motor service, and information on flexible cords and fixture wire. It also gives weights.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

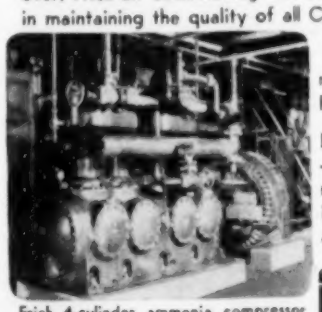
If you write maker identify as IEN - 7506

Famous Pittsburgh firm uses FRICK Refrigeration

35 years, and finds it very dependable

The D. L. Clark Company, manufacturers of the world famous Clark Bar, and Clark Brothers Chewing Gum Company, now operate eight large Frick refrigerating machines in their Pittsburgh Plants. The first of these compressors, installed in 1918, is still in service. Other Frick equipment includes condensers, coolers and controls.

Today, Clark Bars and Clark's Teaberry Gum are famous the world over. Frick air conditioning and cold storage systems play a vital part in maintaining the quality of all Clark products.



Frick 4-cylinder ammonia compressor at D. L. Clark Co., Pittsburgh. Motor has 300 hp.

There's hardly a business that cannot profit from the use of similar Frick cooling equipment.

Let us quote on your requirements —whether for air conditioning, ice making, cold storage, quick freezing, research, or any other refrigerating work.

DEPENDABLE REFRIGERATION SINCE 1883
FRICK CO.
WAYNESBORO, PENNA. U.S.A.
Also Builders of Power Farming and Sawmill Machinery

If you write maker identify as IEN - 7507

MACHINE LOADING, SCHEDULING DISPATCHING AND JOB ASSIGNMENT

Bulletin outlining procedure widely used for these cost-cutting results now available:

Visual Scheduling . . . a glance at Board shows work ahead for each machine or man.

Order Sequence . . . quickly indicated by arrangement of tickets representing orders.

Schedule Changes . . . easily specified by rearranging tickets in revised sequence.

No Delay Between Planning and Dispatching . . . no lists or records to write.

Operation According to Plan Assured.

Readily Adaptable . . . to production, assembly, maintenance, engineering and work of every variety, using work orders, time tickets, move tickets, tabulating cards, etc., and McCaskey Machine Control Boards.

Write today for your copy of illustrated Bulletin A-630 IEN containing all the facts

The McCaskey Register Company, Alliance, Ohio

McCASKEY INDUSTRIAL CONTROLS
PRODUCTION • TOOLS • INVENTORY • COSTS • MAINTENANCE

If you write maker identify as IEN - 7508

"DIX-LOCK"
Quick-Acting, Streamlined AIR HOSE COUPLING

A modern, efficient coupling for all factory and field air lines up to ¾". Made of rustproof steel or bronze. Light weight, yet strong and durable. Snap-lock action . . . quarter turn against spring tension; reverse quarter turn to unlock. Hose ends; male and female I. P. T. ends. Completely interchangeable.

From Your Hose Supplier or Industrial Distributor

DIXON VALVE & COUPLING CO.
PRODUCERS OF *The Quality Line* COUPLINGS • NIPPLES • MENDERS • CLAMPS
"BOSS" "GJ-BOSS" "DIXON" "KING" "AIR KING" "DIX-LOCK"
PHILADELPHIA, PA. BRANCHES: CHICAGO • BIRMINGHAM • LOS ANGELES • HOUSTON

If you write maker identify as IEN - 7509

QUICK-OPENING
PRESSURE VESSEL DOORS
FOR ANY PROCESS APPLICATION

GUARANTEED CONSTRUCTION
U-69 A.S.M.E. CODE
ALL SIZES AND TYPES FOR
RETRACTABLE SHELL OR
ANY STATIONARY TANK
NOW AVAILABLE UP
TO 12 FT. DIAMETER AND
EVERY DESIRED PRESSURE
EASY TO OPEN AND CLOSE
DAVIT TYPE SUPPORTS

Write for our latest Price List!

NORTH Erie

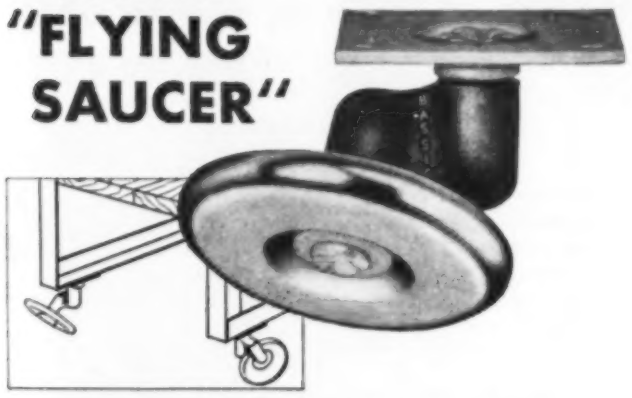
WE CAN ALSO QUOTE ON ANY SIZE OR TYPE OF QUICK-OPENING VESSEL

THE H. W. NORTH CO.
1743 PARADE STREET
ERIE, PENNSYLVANIA

SPECIAL PURPOSE MACHINERY and EQUIPMENT for the BASIC INDUSTRIES

If you write maker identify as **IEN - 7510**

Bassick "FLYING SAUCER"



ZIPS LIGHT TRUCKS OVER ROUGH FLOORS

New "Flying Saucer" caster is just your dish for moving light equipment fast over uneven or littered floors.

Only 3 1/16-in. high, it has a 3-inch wheel that rolls at a 45-degree angle. Does the job of casters *twice* its size. Low design center reduces danger of tipping.

Use on laundry racks, shoe racks, dollies, garage trucks. See your Bassick industrial distributor, or write The Bassick Company, Bridgeport 2, Conn. *In Canada:* Belleville, Ont.

Bassick A DIVISION OF STEWART SW WARNER

MAKING MORE KINDS OF CASTERS . . . MAKING CASTERS DO MORE

If you write maker identify as **IEN - 7511**

STAMPINGS PILOT RUNS

SPECIAL METHODS PRODUCE SMALL QUANTITIES AT MINIMUM COST.

When you need just a few pieces — when you're still in the experimental stage—then an economical, cooperative source of parts is important.

Our **Machine-Cut Method** avoids custom die costs completely by use of special machinery which skillfully fashions pilot quantities.

Careful calculation determines the point at which labor costs warrant our **Short Run Method,** which uses simple contour dies and special purpose presses.

Best of all, when you get into large quantities on the experimental part, our STAMPINGS DIVISION is still your most economical producer, using our **Production Method.** Thus all three methods are at your disposal. And impartial choice of method *saves money* for you!

SEND FOR INFORMATIVE LITERATURE

STAMPINGS DIVISION

LAMINATED SHIM COMPANY, INC.

2107 Union Street, Glenbrook, Conn.

USEFUL INFORMATION

(Continued)

If you write maker identify as **IEN - 7513**

CONVERSION TABLES . . Pocket data card on altitude-pressure and temperature-pressure relations

Tenney Engineering Inc.
24-28 Avenue B, Newark 5, N. J.

One side of new plastic 2 by 6-in. pocket card lists conversion figures for altitude from zero to 260,000 ft. in terms of inches of mercury, pounds per square inch and millimeters of mercury. This side has a 6-in. rule on one edge. The other side give Fahrenheit and Centigrade temperature scales with corresponding pressures of Freon 13, 22, 12 and 14.

If you write maker identify as **IEN - 7514**

CONVEYORS . . Dictionary of terms covers 1,500 items dealing with conveyors

Conveyor Equipment Mfrs. Association
3 Thomas Circle, Washington 5, D. C.

New manual of 64 pages sets up standardized terminology agreed upon by members of the Association. The book, "Conveyor Terms and Definitions", has drawings of principal types. List price is $1.

If you write maker identify as **IEN - 7515**

GAGES . . Suggestions on use of plug and thread gages are printed on data card

Size Control Co.
2508 W. Washington Blvd., Chicago 12, Ill.

Three-color reprint of a recent letter-size advertisement carries a list of do's and dont's on the care and use of reversible plug and thread gages. The company will be happy to send as many as you want at no charge.

If you write maker identify as **IEN - 7516**

HEAT TREATING . . Helpful suggestions on hardening, quenching, tempering of tool steel

K. H. Huppert Co.
6856 Cottage Grove Ave., Chicago 37, Ill.

Technical article method of treatment is employed by new 4-page "Hints on Heat Treating Tool Steel", written by Benjamin Sampson, company's general sales manager. It covers terms and definitions, tells how to harden, quench, draw or temper tool-steel parts.

If you write maker identify as **IEN - 7517**

DIELECTRIC HEATING . . Of foundry cores is described in technical reprint which reports progress

Allis-Chalmers Mfg. Co.
909 S. 70th St., Milwaukee 14, Wis.

Rapid uniform drying of intricate foundry cores is made possible by electronic heat which acts upon the moisture present. Problems encountered are reviewed in 8-page Bulletin 15-R-7973 which reprints an article from the company's "Electrical Review". It tells about using heated metal plates to support the cores in a dielectric field.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 7518**

NOW... for the first time AT LOW COST...

MORE PROFITS! with

CHAINVEYOR LIGHT CAPACITY OVERHEAD CONVEYOR

Fully Enclosed, Continuous Powered

FEATURES—

SIMPLICITY—Engineered to eliminate complicated, fast wearing parts, Chainveyor is revolutionary in simplicity of design. **TRACK**—1⅝" x ⅛" slotted steel tube easily installed with minimum support. • **CHAIN**—Full ball bearing wheels mounted on steel side links, heat-treated for long life. • **CURVES**—15" radii provides extreme flexibility. • **TAKE-UP**—Adjustable spring take-up automatically maintains uniform chain tension. • **VARI SPEED DRIVE**—Positive sprocket tooth drive with easily replaceable shear pin protection. • **CAPACITY**—30# per pendant at 6" intervals, 60# at 12" intervals when supported by 2 pendants with cross bar attachment.—up to 400# chain pull.

DISTRIBUTORS IN ALL PRINCIPAL CITIES

If your conveyor requirement falls within its capacity—INVESTIGATE CHAINVEYOR. Write today for full information. Dept. G

United States Spring & Bumper Co.
4951 Alcoa, Box 2475 Terminal Annex
Los Angeles 58, California

If you write maker identify as **IEN - 7519**

di-acro BOX FINGER BRAKE

1. Box and Pan Brake
2. Open End Brake
3. Standard Brake
4. Bar Folder

Form and duplicate a variety of shapes in metal as heavy as 16 gauge—widths up to 24"—with Di-Acro Brakes.

A number of forming jobs can be done with the Di-Acro Box Finger Brake, by simply adjusting or changing the type of mounting bar on contact surface. Di-Acro Standard and Radius Brakes are also available. Ten models.

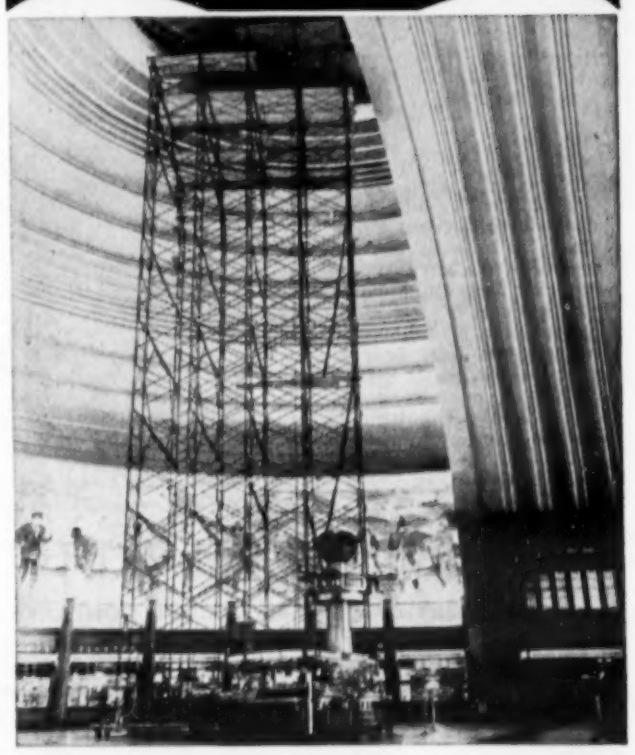
Write for Free 32-Page Catalog

O'NEIL-IRWIN MANUFACTURING CO.
318 8th Ave., Lake City, Minn.

di-acro PRECISION METALWORKING MACHINES

If you write maker identify as **IEN - 7520**

HERE'S HOW THEY DECORATED THE *Cincinnati* UNION STATION



to clean and repaint arches and spherical walls, one company used a 125-foot Safway rolling tower . . . without obstructing traffic!

THEY SAID IT COULDN'T BE DONE! Yet Safway's job-engineered rolling tower permitted cleaning and repainting of this beautiful dome with amazing efficiency. As the tower rolled in a circular path, workmen reached every inch of the lofty ceiling safely and easily.

SPEED WORK SAFELY. By following the job, your Safway tower, made up from standard re-usable units, saves hours of work, makes the job easier and quicker to finish. Thus profits are increased.

HERE'S THE REASON: Safway towers are easy to assemble and dismantle; parts are interchangeable and re-usable in other ways. Compact storage.

Caster wheels and swivel lock firmly in place with positive safety brakes.

Work comfortably and safely on the large platform; protected by a strong, safe guard rail.

For more information, contact your nearby Safway distributor. There's one near you. Or write direct for free illustrated bulletin.

SAFWAY STEEL PRODUCTS INCORPORATED
6228 West State St.
MILWAUKEE 13, WIS.

Manufacturers of Tubular Steel Scaffolding and Equipment

If you write maker identify as IEN - 7522

If you write maker identify as IEN - 7523

A Complete Line of Low Voltage CIRCUIT BREAKERS

Available in ratings from 10 to 600 amperes and voltages up to 600 volt AC, 250 volt DC, either open type or with surface or flush-mounted enclosures, of semi-dust-tight, water- and dust-tight design. Accessories available for conversion to non-automatic, remote tripping, bell alarm and other special requirements.

Superior design and construction features enabled Trumbull Electric to develop U. S. Navy-approved breakers for shipboard service. Take advantage of their superior protection, convenience, permanence in your load center, panelboard, switchboard, industrial, commercial or residential applications.

Available through leading Distributors everywhere. Write direct for literature and technical information.

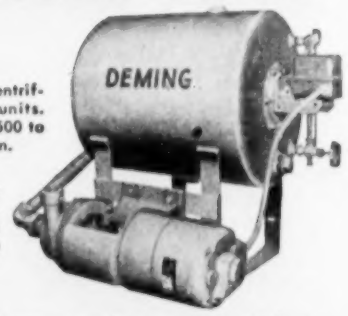
Type TQL Actual Size

TRUMBULL ELECTRIC

DEPARTMENT OF GENERAL ELECTRIC COMPANY
PLAINVILLE, CONN.

If you write maker identify as IEN - 7524

DEMING CONDENSATION RETURN UNITS



(Above) Fig. 4958 "Hotshot" centrifugal jet condensation return units. Capacities cover a range of 500 to 10,000 square feet of radiation.

(Right) Fig. 4301 "Motor Mount" centrifugal pump condensation return units cover a range from 2,000 to 40,000 square feet of radiation.

These modern, efficient "fuel-savers" return the condensate from steam coils, radiators, or steam-operated equipment back to the boilers.

Deming "Hotshot" units are unusually compact and require very little floor space.

Deming "Motor-Mount" units are made in Single and Duplex models. Motors have standard "NEMA" type "C" mounting flange and are furnished for single phase, two or three phase or direct current, as specified.

Write for BULLETIN NO. 4400 which includes performance tables of capacities, pressures, and other useful data.

THE DEMING COMPANY

521 BROADWAY • SALEM, OHIO

USEFUL INFORMATION

(Continued)

If you write maker identify as IEN - 7525

DUCT INSULATION . . Application instructions on six types of Fiberglas insulation for air ducts

Owens-Corning Fiberglas Corp.
100 Nicholas Bldg., Toledo 4, Ohio

Board, flexible and roll forms of Fiberglas materials are used on air duct for thermal insulation and sound absorption. How they are applied is shown by pictures and instructions in new 16-page Bulletin IN-6-A1. Attention is paid to methods of finishing and methods of sealing joints and holes.

If you write maker identify as IEN - 7526

MANAGEMENT . . What the Bureaus do is summarized in the Association's report for 1952

Association of Better Business Bureaus Inc.
723-A Chrysler Bldg., New York 17, N. Y.

Biggest year ever is reported by the 97 Better Business Bureaus in the United States and Canada during 1952. You may be interested in the ten top inquiries and complaints as presented in "Activity Highlights 1952", a 4-page summary, which mentions that industry cooperation grows.

If you write maker identify as IEN - 7527

NEW PRODUCTS . . List of manufacturers looking for new products to make is published in book

Green Leaf Guide
Box 752-A, Dept. G, Port Washington, N. Y.

Six hundred companies in 19 major industrial categories are listed in 1953 edition of the Green Leaf Guide. The 64-page book, list price $2, publishes information on companies looking for outside ideas, circulates the information to patent attorneys and inventors. Manufacturers can purchase space.

If you write maker identify as IEN - 7528

PACKAGING TAPES . . Summary of regulations on tapes for sealing and reinforcing packages for shipping

Minnesota Mining & Mfg. Co.
902 Fauquier St., St. Paul 6, Minn.

Pressure-sensitive tapes employed for shipping containers are the subject of new 6-page Bulletin P-TPM which summarizes the regulations concerning them. These include railroad regulations, Railway Express Agency, Post Office, American Trucking Association, export underwriters.

If you write maker identify as IEN - 7529

PIEZOELECTRIC MATERIALS . . Properties and uses of crystals and ceramics in 32-page technical bulletin

Brush Electronics Co.
3403-7 Perkins Ave., Cleveland 14, Ohio

Action and applications of piezoelectric crystals and ceramic materials are described at the start of new "Piezotronic Technical Data Bulletin". How these materials are used, circuit considerations, properties charts, equivalent circuits are presented. A set of unusual conversion charts covers length, area, force, torque, pressure, density.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7530

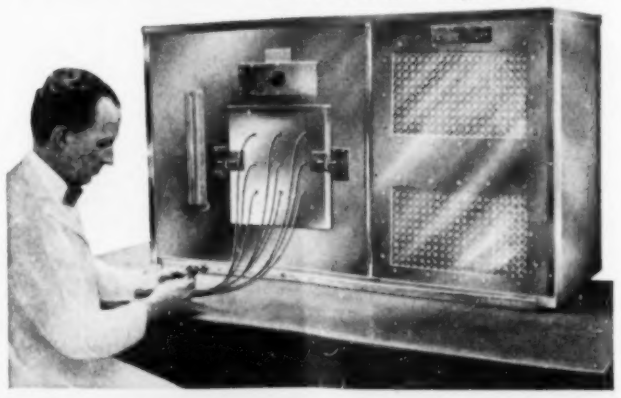
HIGH AND LOW TEMPERATURES NEW BENCH-TYPE TEST UNIT

WEBBER

COMPLETE TEMPERATURE RANGE
TESTING UNITS

Combine high and low temperatures within the same cabinet with all controls self contained. Unit measures 50"x28"x20" with a testing chamber 12"x12"x12". Temperature range is from -80° F., to 185° F. Heat application is accomplished with reverse cycle refrigeration, which eliminates the hazards associated with open heating elements. A blower is provided for even distribution of temperatures and greater testing accuracy. Latch-type or hinge-type door optional. Accelerated pull-down to -80° in 30 minutes or less.

Write today for more complete information



INDUSTRIAL FREEZER DIVISION
WEBBER MANUFACTURING COMPANY, INC.
(Formerly Webber App'ance Co., Inc.)
2746 MADISON AVENUE • INDIANAPOLIS 3, INDIANA

If you write maker identify as IEN - 7531

A complete variable speed power plant in single unit

Combines motor, REEVES speed varying mechanism, and speed reducer in one, space-saving unit.

REEVES VARI-SPEED MOTODRIVE

To new machines or old, REEVES Vari-Speed Motodrive brings all the benefits of stepless speed adjustability. Available with any standard, constant-speed, foot-type motor—no special motors to stock. Horizontal and vertical models, 1 to 25 hp; 2:1 through 6:1 speed ratios; fractional hp sizes in speed ratios through 10:1; manual or automatic controls. Assures *positive, accurate* speed changes without stops—easily applied to machines in service—proved in 300,000 installations. Send for free catalog No. IN 10d-C.

REEVES PULLEY COMPANY • COLUMBUS, INDIANA

If you write maker identify as IEN - 7532

SOUTHERN SCREWS

START FAST
DRIVE STRAIGHT
HOLD TIGHT

Precision Milled Slot
Full Size Shank
Thin, Sharp Thread
Sharp Gimlet Point

Shipment from Stock!

Meets Every Federal Specification

FACTORY WAREHOUSE
4100 Dell Avenue, North Bergen, N. J.
280 Decatur, S. E., Atlanta, Ga.
325 West Ohio St., Chicago 10, Ill.

SOUTHERN SCREW COMPANY

112 RICKERT STREET
STATESVILLE • NORTH CAROLINA

If you write maker identify as IEN - 7533

FOR TOP-QUALITY FORGINGS FOR THE DC-6

Douglas counts on FLASH-O-LENS inspection

Soundness of forgings for the DC-6 can be determined more readily by using FLASH-O-LENS, reports Douglas Aircraft Co.

THE REASON: This handy device *spotlights* the work and *magnifies* it in sharp detail. Interpretation of grain structure — key to forging quality — is speeded up . . . results are more accurate.

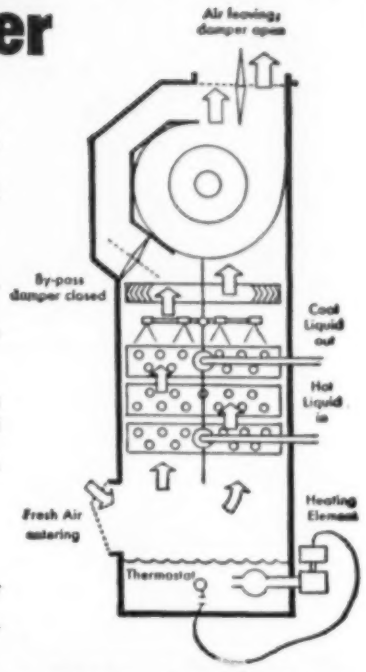
You too may find that FLASH-O-LENS will save inspection time and improve product quality. Battery and plug-in models available — write for literature.

E. W. PIKE & COMPANY

492 NORTH AVE. ELIZABETH, N. J.

If you write maker identify as IEN - 7534

NIAGARA Aero Heat Exchanger



1. Extends quenching capacity without extra water or cooling tower.
2. Quickly pulls down heat at initial peak load of Quenching.
3. "Balanced Wet Bulb" Control holds quench bath at proper temperature, heating if needed to start after shut-down, and cools or heats by automatic control.
4. Saves cleaning expense as compared to cooling tower which picks up acids and fumes from air.

APPLICATIONS

Quench Oils
Cutting Oils
Lubricating Oils
Cooling Water

For help in increasing production, saving of cooling water, write for Bulletin No. 120. Address

NIAGARA BLOWER COMPANY

Over 35 Years of Service in Industrial Air Engineering

Dept. EN, 405 Lexington Avenue New York 17, N. Y.

Experienced District Engineers in all Principal Cities of U. S. and Canada

If you write maker identify as IEN - 7535

THERE'S A STURDY

BURKE

FOR EVERY PURPOSE

Thousands of efficient, low cost Burke Bench Millers are proving their superiority in Tool, Development and School Shops and a wide variety of mass production operations.

Send for complete data on models attachments, accessories and suggestions for putting Burke's to work for your profit.

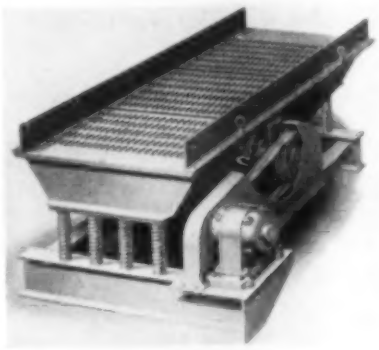
THE U. S.-BURKE MACHINE TOOL DIV.

Brotherton Road 5, Cincinnati 27, Ohio

If you write maker identify as IEN - 7537

FOUNDRIES . . Mold shakeout table rates 2½ ton, built in four sizes

Source: LINK-BELT CO.
305-9 N. Michigan Ave., Chicago 1, Ill.



Ask for Bulletin 2438

Model DS is a new medium duty motor driven shakeout table particularly for use with small size castings. The new line supplements the larger machines, previously developed with ratings to 15 ton. A horizontal type, shown in the illustration, and a self-discharging type, in which the deck is at an angle with horizontal, can be specified to meet requirements.

The drive employs a floating vibrating mechanism that is enclosed with centrifugal unbalanced weights. They operate automatically to limit motion during acceleration and deceleration. A built-in sand hopper, beneath the table, feeds to a conveyor that can be supplied by the user. This hopper also protects the springs and the two ends from contact with sand. Roller bearings are cartridge mounted and are individually lubricated through the shaft ends. Deck dimensions range from about 6½ to 8½ ft. in length by 3 and 4 ft. in width. The motor is a 5-hp. 1,750-rpm. totally enclosed design. Shake-out speed is 960 rpm.

If you write maker identify as IEN - 7538

COUNTING . . Electronic tachometer reads speed, frequency per unit of time

Source: STANDARD ELECTRIC TIME CO.
73 Logan St., Dept. 204, Springfield 2, Mass.

Plug in components

Counting elements are arranged in circles in this new electronic instrument. The count proceeds around the element circles in clockwise direction. The instrument is available with a magnetic pickup particularly designed for assembly on a rotating shaft. It can be actuated by any photoelectric, magnetic, electric or electromechanical means that will produce pulses in a range from 0.2 to 110 volts without marked multiple peaks.

The unit of time is one second. It is governed by a temperature controlled crystal that is accurate to one part in one million. Frequency is to 100,000 cycles per second. Counting time is adjustable between 0.5 and 10 seconds. The count display can repeat automatically or can be started and reset manually. Operation is on 110 volt 60-cycle ac. Accuracy test can be made by transferring the time base pulses to the pulse input by operating a switch on the panel. Dimensions are 12 by 12 by 8 inches.

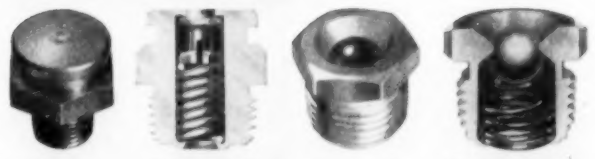
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7539

There's All the Difference in the World in Grease Fittings!

Specify UNIVERSAL'S

New Giant Button Head or Flush Type Fittings



Streamlined One-Piece Design | Giant Button-Head Fitting, Plug Check | Streamlined One-piece Design | Giant Flush-Type Fitting, Ball Check

Note the practically indestructible one-piece construction, streamline design, positive seating of ball or plug check. Special spring design assures maximum clearance for free passage of grease. For a really modern, improved grease fitting, specify UNIVERSAL. Application engineering available promptly on request. Write now for complete information.

UNIVERSAL LUBRICATING SYSTEMS, INC.

785 ALLEGHENY AVE., OAKMONT, PA.

If you write maker identify as IEN - 7540

Be fresh... Stay fresh

wear a **DUPOR** water-cooled

SMOKE MASK

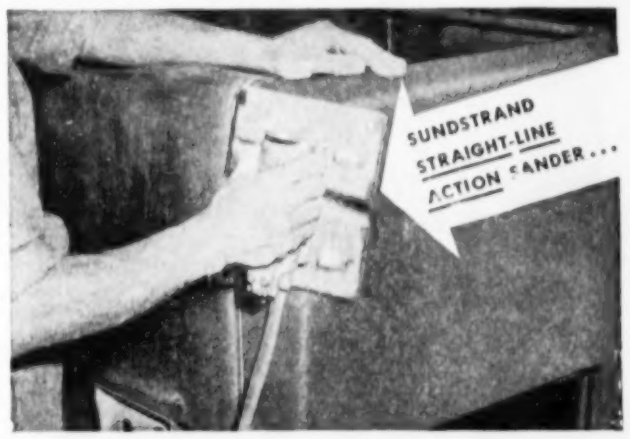
Equipped with "Nod & Shake" Fog-Proof, Gas-Tight Goggles

For combined eye and lung protection of painters, foundrymen, smelters, oil refiners, chemists, firemen, etc. Sponge filter, soaked in water before wearing, keeps out paint spray, smoke, fumes, dusts; provides cool, clean air at every breath. Air-tight goggles give absolute eye protection. Goggles are fog-proof too.

Sample sent $5.00 ppd

H. S. COVER, South Bend, Ind.

If you write maker identify as IEN - 7541



Speeds sanding of metal surfaces preparatory to priming and final finish

Speed the removal of burrs, grinder marks, and other defects in metal surfaces before priming . . . then sand primer coat to a smooth, level surface before final finish. Sundstrand Air Sanders with *Straight-Line Action* are available in single or double pad models, for wet or dry sanding on flat or curved surfaces, to handle almost any sanding operation on wood, metal, or plastics. See your local distributor or write us today for Bulletin IE N-7.

SUNDSTRAND

SUNDSTRAND AIR SANDERS

SUNDSTRAND MACHINE TOOL CO.
PNEUMATIC DIVISION, ROCKFORD, ILLINOIS

If you write maker identify as IEN - 7542

Food Plant Trial Proves need for

"IF ONLY ONE piece of stray metal is detected in our product in a *week*, we need the Allis-Chalmers electronic Metal Detector," officials of a meat packing company stated. A trial of several weeks was made.

During the test, *at least one piece of metal was found per day* . . . pieces like those shown at the left . . . proving the need for the detector. The machine was purchased.

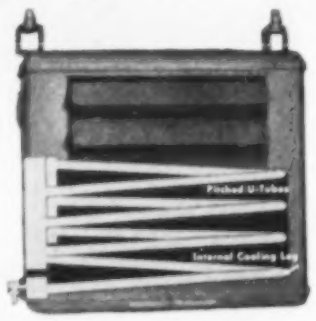
The Allis-Chalmers electronic Metal Detector catches nonmagnetic as well as magnetic metal. It spots particles as small as .047 in. diameter. Call your A-C Sales Office for booklet 7217 showing ways of supplying A-C Metal Detectors.

A-3118

Allis-Chalmers
Milwaukee 1, Wis.

ALLIS-CHALMERS

If you write maker identify as **IEN - 7543**



With

THERMOLIER

... the Grinnell

Unit Heater ...

YOU GET

CONTINUOUS RATED CAPACITY

Failure of unit heaters to give freedom from collected condensate in the heating element can interfere with heat output and adversely affect capacity.

A Thermolier Unit Heater successfully handles this drainage problem with its pitched U-tubes and internal cooling leg, through which all the condensate passes. In fact, condensate cooling is so efficient with Grinnell Thermoliers that a thermostatic trap — the simplest and least expensive of all traps — can be used with every model. Condensate temperature is lowered to the point where the trap is always draining — giving Thermolier Unit Heaters their *continuous rated capacity*.

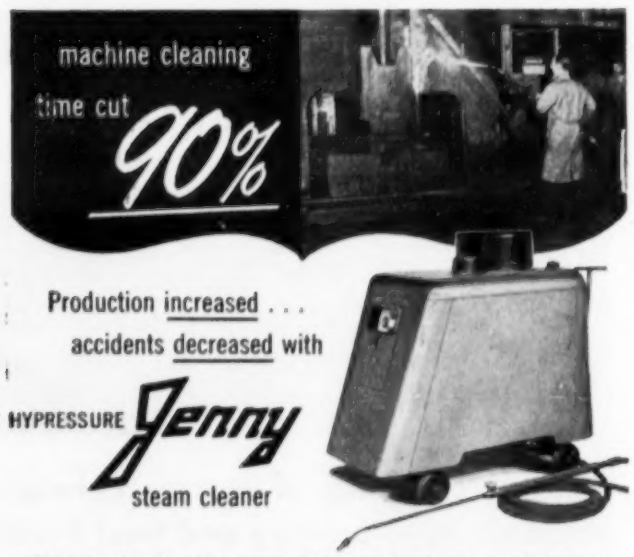
For further details, call your local Grinnell distributor — or send for catalog.

GRINNELL

THERMOLIER UNIT HEATERS

GRINNELL COMPANY, INC.
Executive Offices: Providence, Rhode Island
Sales Offices and Warehouses in Principal Cities

If you write maker identify as **IEN - 7544**



Here are actual savings reported by four prominent manufacturers* who switched from hand cleaning to *Hypressure Jenny Steam Cleaning*.

MACHINE	Hand Cleaning	Hypressure Jenny Steam Cleaning	Man-Hours Saved
40 Ton Toggle Press	64 hrs.	3 hrs.	61 hrs.
72" Calender Machine	48 hrs.	5 hrs.	43 hrs.
Auto. Screw Machine	49 hrs.	5 hrs.	44 hrs.

*Names on request.

And keep in mind that they represent economies in actual cleaning time only. Additional savings of up to 40% in repair costs, less "down-time" for production machinery, and fewer lost-time accidents, invariably result when machinery, tools, equipment and floors are kept clean and free of dangerous, speed-retarding dirt and grease.

Complete details are yours for the asking. Write today.

HYPRESSURE JENNY DIVISION

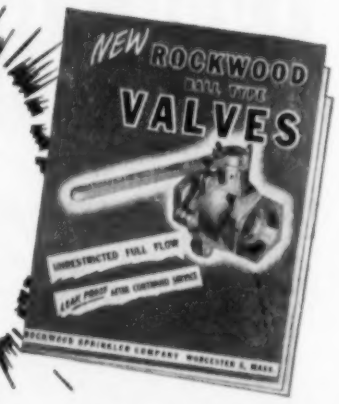
HOMESTEAD VALVE MANUFACTURING CO.

P. O. BOX 85 *Serving since 1832* CORAOPOLIS, PA.

If you write maker identify as **IEN - 7545**

Get this fact-filled booklet on

The valve that's breaking records



Throughout industry Rockwood Ball Valves are chalking up new records for long life, safety and economy. Features like these tell you why:

Full Round Flow . . . Quick Opening and Closing . . . Resists Wear Longer . . . Stays Leak-proof.

Ideal for handling water, air, carbon dioxide, nitrogen, alcohol, paper fluids, paraffin and asphalt base petroleums and many other liquids and gases. Tested by Underwriters' Laboratories, Inc.

Get complete details on this great new advancement in valve engineering. Send for booklet. Rockwood Sprinkler Company, 40 Harlow Street, Worcester 5, Mass. Distributors in all principal cities.

ROCKWOOD BALL VALVES

THE FLOW IS AS ROUND AS THE PIPE ITSELF

USEFUL INFORMATION

(Continued)

If you write maker identify as **IEN - 7546**

PROCESSING . . Pocket data booklet of facts and figures dealing with coal preparation

McNally Pittsburg Mfg. Corp.
3208-12 Langdon, Pittsburg, Kansas

Equivalents, weights of materials, screen types and selection, analyses of coals are among the information in new 72-page pocket-size "Coal Preparation Manual". Following this is a section on washing, drying, crushing machines.

If you write maker identify as **IEN - 7547**

RIVETS . . Cardboard slide selector gives dimensions on extruded, drilled, bifurcated rivets

Milford Rivet & Machine Co.
252 Post Road, Milford, Conn.

"Rivet Selector" is new 8½ by 5½-in. unit which the company will be happy to send on request to help you in fastener selection. Drawings on the face show extruded, drilled, bifurcated rivets accompanied by windows which give dimensions, part numbers, clinch allowance, clearance hole size.

If you write maker identify as **IEN - 7548**

SAW BLADES . . Three instruction booklets on how to use hand and power hacksaws, also band saws

Capewell Mfg. Co.
58-62 Governor St., Hartford 2, Conn.

One or all three new pocket instruction booklets are offered on request to assist in selection and use of saw blades. "How to Use Hand Hack Saws", 24 pages, tells about 5 blade types and their uses, blade and frame selection, operation, hints on special cutting jobs. "How to Use Power Hack Saws," 16 pages, and "How to Use Band Saws," 6 pages, give information on blade and machine operation. The last one contains suggestions on friction sawing.

If you write maker identify as **IEN - 7549**

TAPES . . Pressure-sensitive types are identified by number in new pocket booklet

Polyken Industrial Tape
220-24 W. Adams St., Chicago 6, Ill.

Hundreds of pressure-sensitive tapes by several manufacturers are identified by number in a consecutive list just published by the company. The list is in the form of a 16-page "Tape Number Dictionary," list price 25 cents.

If you write maker identify as **IEN - 7550**

TEST INSTRUMENT . . Questions and answers on X-ray analysis methods for compounds and elements

North American Philips Co.
748-52 S. Fulton Ave., Mount Vernon, N. Y.

Twenty questions are answered in new 8-page booklet, "X-Ray Analysis" on X-ray spectrometer and fluorescence methods of analyzing materials, both quantitative and qualitative. Non-destructive and rapid features are emphasized.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 7551**

with MULTI-CLEAN ASPHALT TILE PRESERVER and THE MULTI-CLEAN METHOD

"We spend 65% less maintenance time on our asphalt tile floors and have cut our material costs in half since using the Multi-Clean Method," says the maintenance director at Seeger Refrigerator Co., St. Paul, Minn.

Multi-Clean Asphalt Tile Preserver and the Multi-Clean Method apply to old and new asphalt tile floors . . . add years to their life, impart a new beauty-clean appearance and sure footing. No wax is required for a bright and gleaming surface.

Maintenance in the Seeger offices includes daily dry dust mopping and damp mopping with cold water followed by machine buffing with a No. 0 steel wool disc every 3 to 4 days. A new application of Multi-Clean Asphalt Tile Preserver is made 4 times a year.

Write Multi-Clean Products, Inc., Dept. IE-7 for details

Multi-Clean 9-Job Floor Machine

Multi-Clean Wet-Dry Vacuum

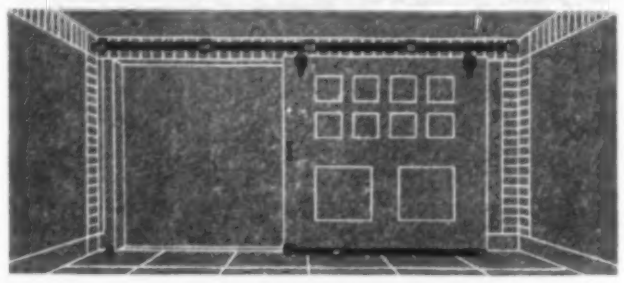
MULTI-CLEAN PRODUCTS INC.
2277 Ford Parkway
ST. PAUL 1, MINNESOTA

free! FLOOR MANUALS—Handy file size, each manual deals with a specific type of floor, its characteristics and care . . . asphalt and rubber tile, terrazzo, concrete, wood, linoleum.

If you write maker identify as **IEN - 7552**

COBURN

SLIDING DOOR HARDWARE



. . . LOW INSTALLATION COST
. . . SMOOTH, EASY OPERATION
. . . LONG, TROUBLE-FREE LIFE
. . . ADAPTABLE FOR BOTH NEW AND REMODELING JOBS

Sliding door hardware for industrial applications of all types: Straight-sliding, sliding-folding, around-the-corner, roundhouse and fire doors.

For additional information write to Sales & Engineering, 56 Sterling St., Clinton, Mass. or consult your classified telephone directory.

THE COLORADO FUEL & IRON CORPORATION—Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION—Oakland, California
WICKWIRE SPENCER STEEL DIVISION—Clinton, Massachusetts

COBURN PRODUCTS

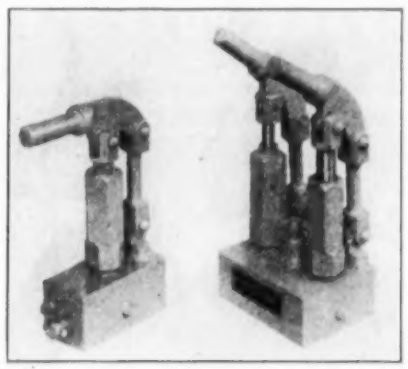
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL & IRON CORPORATION

If you write maker identify as **IEN - 7553**

HAND HYDRAULIC PUMP

Single and Double Designs

To 20,000 P. S. I.



Interchangeable Pistons 3/8-1/2-1/4 inch

★

Integral Release Valve

★

Dual Pump Unit Reservoir 360 Cu. in.

Pressure range is 3,000 to 20,000 P.S.I. Pipe connections ¼" N.P.T. Handle length is 18 inches. Weight is 8 to 18 pounds. Unit can be bolted or welded into position. We specialize in hand pump units to operate in temperatures from minus 65 F. to 160 F. and with any capacity reservoirs required.

WILLIAM S. PINE

1637 E. 22nd Street, Los Angeles 11, Calif.

If you write maker identify as **IEN - 7554**

DEALER FRANCHISES AVAILABLE IN SOME AREAS

Everseal for the finest **Industrial Paints, Varnishes, Waterproofings & Coatings**

THE EVERSEAL LABEL MEANS: More than 35 years of successful paint manufacturing by an engineer-managed firm . . . Products used throughout the world . . . The best in economical maintenance for industry and government!

Everseal products used to protect the Statue of Liberty!

1. INVISO. Invisible water and moisture repellent for exterior masonry of all types. Withstood severe tests by U.S. Army and Navy.

2. ANTI-FUNGUS PAINTS. Extremely resistant to mildew and fungus present in many industrial operations. Colors.

3. DEEP PENETRATION FLOOR HARDENER. A clear liquid which is applied on concrete floors, hardening the surface—dustproofing and wear-resisting.

4. FRIGID SEAL. Sealing and caulking compound which remains flexible and workable to temperatures 92°F. below freezing.

5. FIRE RETARDANT PAINTS. Water and weather resistant, fire retardant coating. No toxic fumes are formed. White and tints.

6. EVERKROME. A rust-inhibiting primer. Dries faster, harder than ordinary red lead. Won't crack. Can be left for months before applying finishing coat.

Send For More Information Today!

Clip this ad to your letterhead and mail to: "G"

Everseal MANUFACTURING COMPANY, INC.
250 WEST 57th STREET • NEW YORK 19, N. Y.

If you write maker identify as IEN - 7555

AA-267

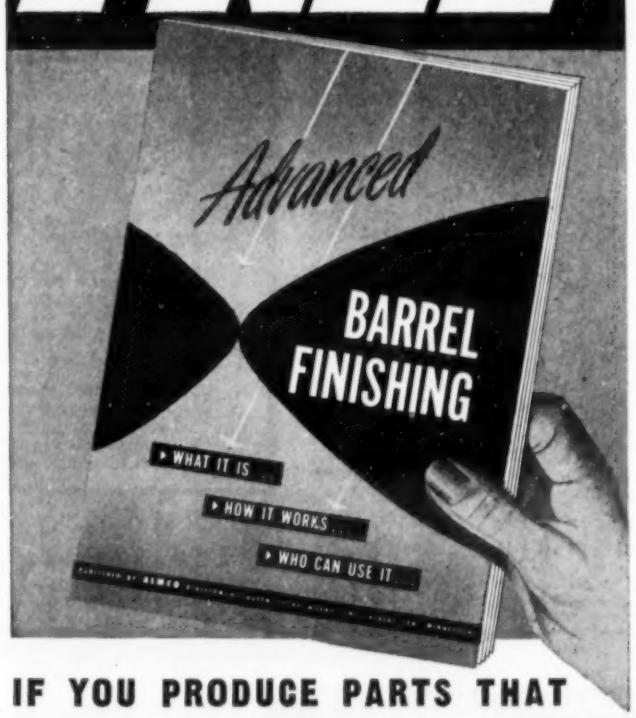
IF you sell your products in rolls (like adhesive tape), or—if you use rolls in production (like printing or coating) then—**better rolls can build your profits** by reducing waste, by increasing production and by improving your products. Get the facts on Camachine roll slitters and rewinders, the **right** model for every material. Write today to

CAMERON MACHINE COMPANY
61 Poplar Street • Brooklyn 1, N. Y.

Camachines

If you write maker identify as IEN - 7556

FREE



IF YOU PRODUCE PARTS THAT REQUIRE FINISHING OF ANY KIND

This 22-page booklet is *guaranteed* to open your eyes! It gives you the inside story of advanced barrel finishing *as never told before.*

In the last five years, barrel finishing has made rapid advances. Only those directly connected have been able to keep up. *Only 30%* of the nation's manufacturers are benefiting from the tremendous cost savings and improved finishes made possible by these advances.

Now is the time to investigate this labor-saving, cost-cutting method. ALMCO barrel finishing equipment has completely paid for itself *in as little as two months!* This is easy to understand. A single unit installation replaces from two to twelve men. Savnigs run as high as 95%.

"Advance Barrel Finishing" is the only mass deburring, grinding and finishing method where results are *controlled.* Amazing results are now possible on almost all types of parts from large castings to small intricate parts. Close tolerance parts can be finished with absolute uniformity to almost any desired micro-inch reading.

WRITE TODAY FOR YOUR *FREE* COPY
ASK FOR BOOKLET No. G-7.

ALMCO Supersheen

AMERICA'S LARGEST MANUFACTURER OF ADVANCED BARREL FINISHING EQUIPMENT—MATERIALS AND COMPOUNDS
ALBERT LEA, MINNESOTA

If you write maker identify as IEN - 7558

HANDLING . . Fibre tote box to carry by hand and stack at machines

Source: WILLIAM BAL CORP.
9-13 Johnson St., Newark 5, N. J.

Specified sizes

Vulcanized fiber with hardwood **slat reinforcements** on the bottom, formed bulge lower corners and a formed top rail make up the construction of this new tote box. Hand holes are included in the two ends just under the top rail. The bulge corners permit stacking filled boxes. The top rail strengthens the assembly and provides a comfortable grip for the worker.

If you write maker identify as IEN - 7559

PACKAGING . . Polyethylene drum to ship and store critical liquids

Source: DELAWARE BARREL & DRUM CO.
553 New Castle Ave., Wilmington 99, Del.

Bulletin upon request

One piece molded polyethylene drums are now available to fit inside of standard steel, fiber or plywood removable top drums and to present two plug closed cap covered openings with flanges that project through the outer drum cover. The molded unit also is available in a 5-gal. square container that fits into a corrugated carton or a wood box.

List price for the molded drum without the outer container ranges from $2.75 to $16 each in lots of 100 or more. The user can apply the molded unit in drums in his own plant or also specify these drums at a list price of 85 cents to $9.75. The plastic protects liquids, prevents container corrosion.

If you write maker identify as IEN - 7560

LIGHTING . . Fluorescent starters in four types for all requirements

Source: HARVEY HUBBELL INC.
Bostwick Ave. & State St., Bridgeport 2, Conn.

Quality controlled

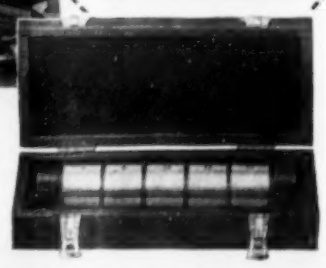
Jackrabbit trade names a new line of starters for fluorescent lamps. Three are shown in the illustration. They include the Neostart glow discharge unit for economical use under normal operating conditions, the Manual Reset protective type to de-activate a worn out or defective lamp and Autoset for installations involving lamps that are hard to start and for application on low line voltages. Also available, but not shown, is the Thermostart unit for dc.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7561

Check Surface Roughness Waviness and Lay INSTANTLY . . . Right At The Machine

With ACME'S ROUGHNESS COMPARISON SPECIMENS



Consists of various surface specimens, *individually finished* to definite micro-inch readings, grouped together in one handy comparison bar. Merely hold bar opposite work for fast, visual comparison check of surface roughness, waviness and lay.

Available in groups of 3, 5 and 8 specimens. Low cost. Write for details, now!

Mfr's. of Drill Jig & Fixture Bushings

ACME INDUSTRIAL COMPANY
215 N. Laflin St. Chicago 7, Illinois

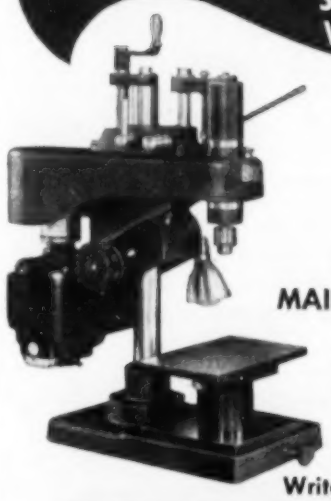
THE SERVICE SHOP TO INDUSTRY FOR OVER A QUARTER CENTURY

If you write maker identify as IEN - 7562

For the SMALLER HOLES
the MORE ACCURATE HOLES

HAMILTON

VARIMATIC® DRILLING MACHINE
SUPER SENSITIVE
VARIABLE SPEED



DRILLING CAPACITY
.004" to 0.3125"
in all drillable materials.

SPINDLE SPEEDS
840 to 9300 R.P.M.
(Infinitely variable.)

CLEARANCE
Drills to the center of 10"

MAINTAINS PRODUCTION
REDUCES SCRAP

The Hamilton Varimatic is *designed and built* for the production, in volume, of extra accurate holes.

Write for FREE Bulletin D-5311.

THE Hamilton TOOL COMPANY
905 HANOVER STREET • HAMILTON • OHIO • U • S • A

If you write maker identify as IEN - 7563

New Press Catalog

Complete details and illustrations of Federal's high quality line of open-back, inclinable presses, 6 to 80 tons including **Standard Presses, Dial Feed Presses, High Speed Presses, Special Presses.** Shows unusual applications and how to select presses of proper capacity. You will welcome this catalog. It should be in your files.

Write For Free Copy Today!

THE FEDERAL PRESS COMPANY
503 Division Street, Elkhart, Indiana

FEDERAL Open-Back Inclinable PRESSES
28 YEARS OF QUALITY CONSTRUCTION

If you write maker identify as IEN - 7564

HERE'S HEAT AS YOU NEED IT

for Soldering that's STRONGER FASTER CHEAPER

IDEAL

Thermo-Grip®

Get production-line speed on solder joints that are perfect every time. No preheating, no cold-flow joints, no remakes . . . Thermo-Grip's resistance heating puts instant heat right where you need it for best solder adhesion. Can't damage nearby joints or parts. Many capacities and "Plier," "Pencil," "Fork" attachments to cut costs on all types of jobs.

SOLD THROUGH LEADING DISTRIBUTORS

TRY THERMO-GRIP FREE

IDEAL INDUSTRIES, Inc.
1108 Park Ave., Sycamore, Ill.
Please arrange FREE Thermo-Grip demonstration and send catalog data.
Name_____
Company_____
Address_____
City_____ Zone____ State____

If you write maker identify as IEN - 7565

Hundreds of PROFITABLE USES for—

Use these versatile flexible shaft tools

for all kinds of shop work including die sinking, polishing, reaming, grinding and similar jobs. They're quickly and easily coupled to any electric motor with ⅜" or ½" diameter spindles.

They come in two sizes. The 700 Series for precise, delicate work use .092" shank diameter tools. The 500 Series for heavy duty service use tools with shank diameters up to ¼".

WRITE FOR THIS CATALOG. CATALOG T-51 describes Flexarms and many other S. S. White tools for industry. Send for your copy today.

THE S. S. White INDUSTRIAL DIVISION
DENTAL MFG. CO. Dept. H, 10 East 40th St. NEW YORK 16, N. Y.
WESTERN DISTRICT OFFICE: Times Building, Long Beach, California

If you write maker identify as IEN - 7566

Generalift ★★★★★

PALLET BOXES

cut materials handling costs 50%

WRITE US FOR DETAILS

Send for your Free Copy of "THE GENERAL BOX"

General BOX COMPANY ★★★★★
GENERAL OFFICES: 1815 MINER STREET DES PLAINES, ILLINOIS
FACTORIES: Cincinnati; Denville, N. J.; Detroit; East St. Louis; Kansas City; Louisville; Milwaukee; Prescott, Ark.; Sheboygan; Winchendon, Mass. General Box Company of Mississippi, Meridian, Miss. Continental Box Company, Inc., Houston

If you write maker identify as IEN - 7567

have you a CORROSION problem?

BOLTS • NUTS
SCREWS • RIVETS
COTTER PINS
WASHERS
SPECIALS

IN BRASS
SILICON BRONZE
NAVAL BRONZE
COPPER
NICKEL
ALUMINUM
MONEL
STAINLESS STEEL

Harper Everlasting Fastenings are corrosion-resistant—produced from non-ferrous metals and all stainless steels. For fastenings that improve the appearance of your equipment—add years to its life, call Harper—largest manufacturer in its field. Over 7,000 different items in stock to meet your requirements. Write for catalog.

HARPER
EVERLASTING FASTENINGS

The H. M. Harper Company
8211 Lehigh Avenue
Morton Grove, Illinois
Please send me Harper Catalog 25.

Name.....
Company.....
Address.....
City..... State.....

USEFUL INFORMATION
(Concluded)

If you write maker identify as IEN - 7568

TEST INSTRUMENT . . Use of signal generator to align UHF television receiver is described in booklet

Simpson Electric Co.
5202 W. Kinzie St., Chicago 44, Ill

How to adapt the company's Model 479 and 480 signal generators for UHF television receiver alignment, even though they were not intended for the purpose, is described in new 32-page Bulletin 480. It is available on letterhead request to qualified individuals. Harmonics are employed.

If you write maker identify as IEN - 7569

FORK TRUCKS . . Operator training course covers operation, preventive maintenance, safety

Yale & Towne Mfg. Co.
11002 Roosevelt Blvd., Philadelphia 15, Pa.

Gasoline, diesel and electric fork lift trucks are included in new Operator Training Program which the company has developed and is making available in printed form. Lessons are grouped into sections and are coordinated by an instructor's manual. One section is on operation, a second on preventive maintenance, and the third on safety.

If you write maker identify as IEN - 7570

TRUCK TIRES . . Suggestions to operators of motor vehicles on how to get maximum tire mileage

B. F. Goodrich Co.
448-52 S. Main St., Akron 11, Ohio

Planned tire maintenance is the subject of new 8-page booklet addressed to operators of motor vehicle trucks. Title is "How to Get More Recaps out of Your Truck Tires". It compares the cost of recapping tires when worn with that of new tires, suggests points to watch for.

If you write maker identify as IEN - 7571

VENTILATING . . Bulletin of suggestions on how to balance make-up air with building exhaust air

National Association of Fan Mfrs.
2159-A Guardian Bldg., Detroit 26, Mich.

Bulletin 115 is new 4-page publication that deals with the problem of exhaust air in a building because of process requirements. It describes make-up air supply equipment and summarizes the relation of make-up air to heating load.

If you write maker identify as IEN - 7572

WELDING ELECTRODES . . Information bulletin on low hydrogen electrodes tells why and how to use them

Alloy Rods Co.
6505 W. Market St., York, Pa.

Technical-article manner of presentation is followed in new 8-page Bulletin AR-53-18, "The Facts about Low Hydrogen Electrodes". It tells how hydrogen causes underbead cracking in a weld and gives a suggested procedure.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7573

step up production with

STOW flexible shaft MACHINES

These dependable STOW FLEXIBLE SHAFT MACHINES save production time . . . speed up output . . . help lower production costs. Variable Speed Models shown are easily portable . . . cut down operator fatigue and increase on the job efficiency!

Constant Speed Models available. Also complete line of accessories designed to increase the utility of STOW Flexible Shaft Machines!

WRITE TODAY
for your free copy of Catalog 51

STOW MANUFACTURING CO.
25 Shear St. Binghamton, N. Y.

If you write maker identify as IEN - 7574

18 WAYS TO SAVE TIME & MONEY!
with the
Mead Industrial Burring Machine

Wood-Plastic-Metal

New circular explains, illustrates 18 ways in which the Mead Industrial Burring Machine saves time and money—also contains special Grit Guide. Every industrial plant needs this "Jack-Of-All-Trades" machine. Your burring can be done in "free time"—install these machines by every machine tool which leaves burrs. Grinds, finishes both outside and inside cut-out openings. Immediate delivery in most cases. Write for the informative Money-Saving circular now.

MEAD SPECIALTIES COMPANY
4114 NO. KNOX AVE. DEPT. EA-73 CHICAGO 41, ILL.

If you write maker identify as IEN - 7575

IF it's a problem in Precision Potentiometers ...Helipot HAS THE ANSWER!

World's largest manufacturer of precision potentiometers

HELIPOT offers a unique combination of unequalled "know-how", advanced manufacturing facilities and experienced personnel for solving *your particular* problems in the application of precision potentiometers to modern electronic circuits.

Suppliers to both Government and industry, HELIPOT has developed high speed winding, assembling and testing equipment that combine custom-built precision with mass-production economies. Multiple and single-turn designs . . . single and double shaft extensions . . . ganged assemblies . . . custom-spaced taps . . . multi-turn dials . . . *these and many other special features are part of the daily output at* HELIPOT!

If you have a problem requiring precision potentiometers, bring it to HELIPOT Corporation—*world leader in its field.* A call or letter outlining your problem will receive immediate attention!

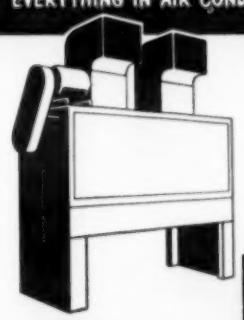
First in the field with *ball bearing* shaft supports as a standard production feature is the Model J Helipot. The single-turn "J" offers 1 oz. starting torque, continuous rotation, 3-way servo mounting, custom taps, 5 watts power rating, 50 to 50K ohms resistance, ±0.5% linearity. As many as 6 units can be mounted on one shaft and *independently phased after installation.* Send for complete data.

Helipot *division*
Write for Data File 56-712
BECKMAN INSTRUMENTS, INC.
SOUTH PASADENA, CALIFORNIA
PLANTS IN SO. PASADENA, CALIF. AND MOUNTAINSIDE, N. J. • REPRESENTATIVES IN PRINCIPAL CITIES

If you write maker identify as IEN - 7576

U.S. AIRco
EVERYTHING IN AIR CONDITIONING

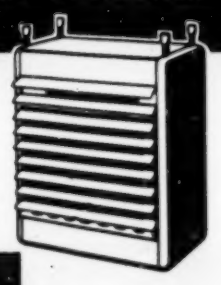
Blower Type Unit Heaters



- Powerful heaters . . . provide large volumes of uniform heat
- Ceiling, Floor or Wall Models
- Equipped with hot water, steam or steam distributing coils
- 8 sizes, from 1,000 cfm to 33,000 cfm

U.S. AIRco

Gas Fired Unit Heaters



- For all types of gas
- For all kinds of applications
- Including Blower and Duct—in sizes ranging from 55,000 to 400,000 BTU input

U.S. AIRco
UNITED STATES AIR CONDITIONING CORP.
MINNEAPOLIS 14, MINNESOTA

For details Write Dept. IEN 753

If you write maker identify as **IEN - 7577**

If you write maker identify as **IEN - 7578**

Tape it with Behr-cat®

Whether it's going across the country . . . or just across the street, your shipment gets out faster and easier when you tape it with BEHR-CAT.

Unbelievably strong, this filament-reinforced tape is helping to simplify industrial shipping. Application is as simple as ABC. It sticks and grips at a touch without wetting. It needs no special tools or skills to apply and customers like it because they can unwrap in a jiffy. Yet its great strength makes it immune to shocks and jolts. Packages stay firm no matter how long or rough the trip. BEHR-CAT is a natural for sealing cartons, wrapping wire coils, tubing, lumber, plate glass, and banding metal parts.

The only way you can see for yourself is to try a roll. There's one here with your name on it. Just ask for it on your letterhead. Write us today. Behr-Manning Corp., Troy, N. Y. Address Dept. IEN-7.

In Canada: Behr-Manning (Canada) Ltd., Brantford.
For Export: Norton Behr-Manning Overseas Inc., New Rochelle, N. Y., U. S. A.

BEHR-MANNING CORPORATION
division of NORTON Company
▲ COATED ABRASIVES ▲ SHARPENING STONES ▲ PRESSURE-SENSITIVE TAPES

If you write maker identify as **IEN - 7580**

INSULATING . . Molded glass fiber in 6 ft. lengths for 2 to 10 in. pipe

Source: GUSTIN-BACON MFG. CO.
208-12 W. 10th St., Kansas City 6, Mo.

Ask for Bulletin UFP-353

Fine blown glass fibers are bonded with a phenolic resin and are molded into one-piece sections in the company's new Ultra-fine pipe insulation. Weight is negligible. Applications include direct insulation for cold application and hot lines to 350 deg. F. and as a second layer in high temperature duty.

The material can be cut with a knife. It can be walked on, bent double without splintering, chipping, crumbling. It will spring back to its original shape after being crushed flat. Wall thickness is ½, ¾, 1 and 1½ inches.

If you write maker identify as **IEN - 7581**

CLEANING . . Liquid detergent mixes with water for floors and walls

Source: C. B. DOLGE CO.
12-16 Welton Road, Westport, Conn.

Company offers 30 day trial

Cindet is a new synthetic detergent for dilution in 20 parts of water to apply with a mop on floors and horizontal surfaces. It mixes with 30 parts of water to apply with a clean cloth on walls. Application is followed with a water rinse to leave the surfaces clean.

The liquid holds dirt in suspension. The resulting foam can be picked up easily. The material is safe to use on any surface. It is excellent to strip water emulsion wax from a floor. It is approved by the Flooring Division of Rubber Manufacturers Association. Freezing does not harm it.

If you write maker identify as **IEN - 7582**

PROTECTING . . Ventilating covers snap into ⅞ and 1 inch openings

Source: SHAKEPROOF INC.
252 St. Charles Road, Elgin, Ill.

One piece stamping

Spring fingers, three in number, project forward from the face of this new circular ventilating cover to grip the sides of an opening over which the cover is pressed with finger pressure. Protection for the opening is combined with ventilation. No special tools are required for assembly or removal. The unit was initially designed to provide internal ventilation in refrigerator doors and in freezer lids.

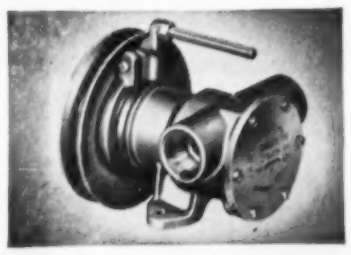
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 7583**

A PAID NEWS ADVERTISEMENT BY JABSCO PUMP CO.

JABSCO SELF-PRIMING PUMP AND CLUTCH UNITS

Built-on Clutch
Fingertip Controlled



Jabsco's multi-purpose Pump and Clutch Units are available for immediate delivery. Model 2300 (1" pipe size), and Model 2500 (1¼" pipe size) are small, compact units having the easy-operating clutch built into the pump, eliminating the need for a separate clutch base. Friction cone type clutch can be operated by handle, lever or cable. Units are equipped with New Departure sealed and pre-lubricated ball bearings in both pump and clutch. These compact units may be mounted at any angle desired, and driven by an A or B Section V-belt. Jabsco Pumps are completely self-priming, with dry suction lifts approaching 20'; when primed, as high as 25', and no foot valve is required. The exclusive Jabsco "camflexed" Neoprene Impeller is the only moving part in the pumps. Impeller is easily replaced without disconnecting piping or drive belt. Jabscos are economical, low in first cost, and trouble and maintenance free, even under continuous rugged operation. Liquids are efficiently pumped at low or high speed, in either direction. Model 2300 delivers 1680 GPH and Model 2500 delivers 3300 GPH at 10' head, 1750 RPM. For complete information, write **Jabsco Pump Company,** 2031 North Lincoln Street, Burbank, California.

If you write maker identify as **IEN - 7584**

Steel company saves time with a 10 hp Car Spotter.

Spot cars at a moment's notice with a LINK-BELT Car Spotter

ONE man and a Link-Belt Car Spotter can spot up to six loaded freight cars with ease. What's more, you reduce demurrage charges. Choose from a complete line of models—portable or stationary, with 5 or 10 hp integral or separate motors.

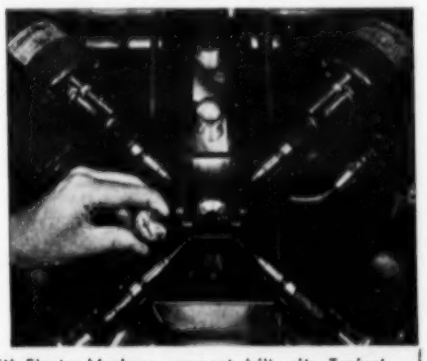
LINK-BELT
CAR SPOTTERS

Write today for Book 2092 and get all facts on car spotters and drum type pullers.

LINK-BELT COMPANY: Plants: Chicago, Indianapolis, Philadelphia, Colmar, Pa., Atlanta, Houston, Minneapolis, San Francisco, Los Angeles, Seattle, Toronto, Springs (South Africa), Sydney (Australia). Sales Offices in Principal Cities. 13,180

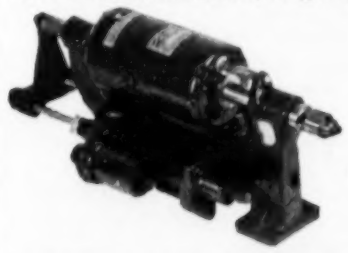
If you write maker identify as **IEN - 7585**

SMALL HOLE DRILLING SPEEDED AUTOMATICALLY



. . . and at low cost with Electro-Mechano compact drill units. Typical set-up above is used by a Racine screw machine company; four units drill #50 holes in stainless steel fuel nozzle caps. Production was increased from 40 to 190 pieces per hour.

These fast acting complete drill units speed up many simple drilling jobs and simplify complicated multi-spindle jobs. Direct electric motor drive variable speed spindle provides 1000 to 10,000 or 2500 to 15,000 RPM; employs economical air feed with adjustable hydraulic rate control. Supplied in pad or column mount, with manual, electric or automatic trip; drill cap. .004 to .156". Precision sensitive bench and floor models available up to ½" cap.



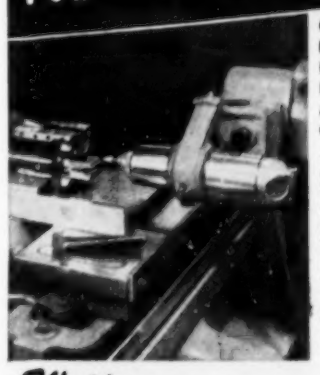
FOR SIMPLE OR COMPLICATED SET-UPS

get more information, write for bulletin I-109

THE ELECTRO-MECHANO CO.
269 E. ERIE ST. MILWAUKEE 2, WIS.

If you write maker identify as **IEN - 7586**

LOWEST COST PRECISION FOR TOOL ROOM AND PRODUCTION



ONE PORTABLE MULTI-PURPOSE PRECISE GRINDER-MILLER WITH MACHINE TOOL MOUNT DOES THE WORK OF A SINGLE-PURPOSE MACHINE COSTING 100 TIMES AS MUCH!

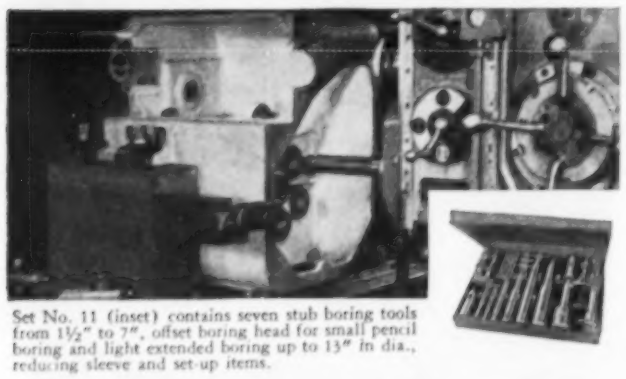
Little can be done today to reduce labor and material costs. For substantial savings employ new, better techniques. Mount PRECISE Grinder-Millers on lathes, drill presses, milling machines and other machine tools or use in special production set-ups. ⅛ HP, speeds from 20,000 to 45,000 r.p.m.; 115 volts, AC-DC. Ruggedly built for continuous duty. All metal housing; rigid PRECISE quill; sealed micro-precision bearings. *High speeds and accurate PRECISE quill and chuck are ideal for tungsten carbide cutters.* PRECISE will grind, mill or finish any material from soft wood to the hardest alloy steel.

Write FOR NEW CATALOG

PRECISE PRODUCTS CORP., 1326 Clark St., Racine, Wis.

Precise **GRINDER-MILLERS**

If you write maker identify as IEN - 7587



Set No. 11 (inset) contains seven stub boring tools from 1½" to 7", offset boring head for small pencil boring and light extended boring up to 13" in dia., reducing sleeve and set-up items.

Use DAVIS "Super" Micrometer stub boring tool sets

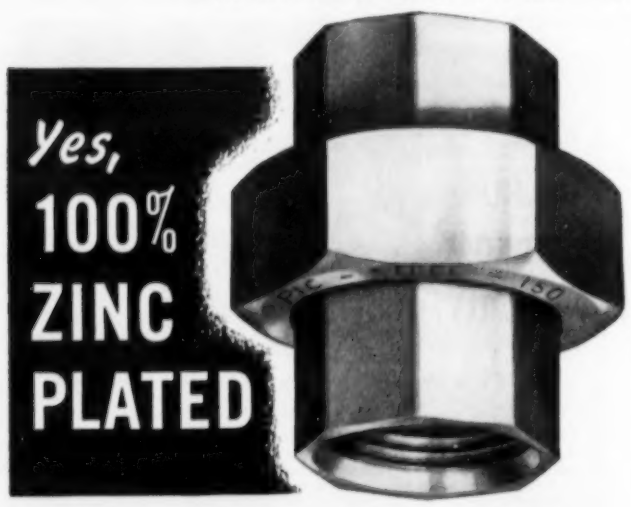
- ✓ Adjust to within .0001".
- ✓ Rugged for heavy boring.
- ✓ Precise for fine finishes.
- ✓ 10 complete, convenient standard sets equipped with high-speed steel cutters to choose from.
- ✓ Stellite, tungsten or super high speed cutters also available.

THE handiest production boosting tool sets on the market. For use with horizontal boring, drilling and milling machines . . . vertical or horizontal boring machines . . . turret lathes . . . vertical turret lathes . . . or milling machines. Available for almost immediate delivery. Modifications in any set can be made to meet exact requirements. Write for complete details.

WHATEVER YOUR BORING PROBLEM, IF DAVIS CAN'T BORE IT — IT CAN'T BE DONE!

DAVIS BORING TOOL DIVISION
GIDDINGS AND LEWIS MACHINE TOOL COMPANY
FOND DU LAC, WISCONSIN

If you write maker identify as IEN - 7588



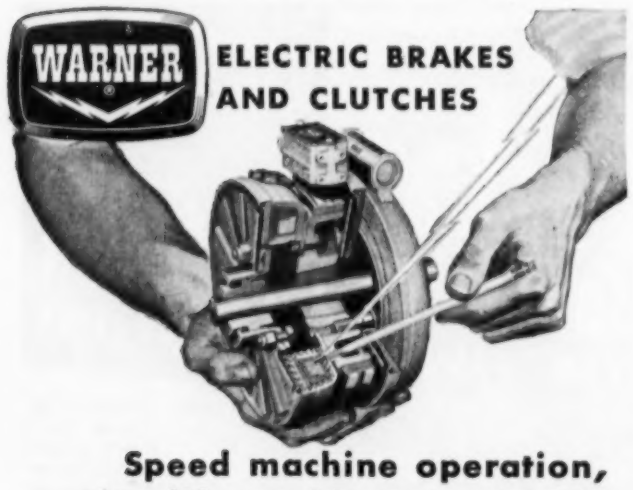
PIC STEEL UNIONS*

Rust can't get a foothold on these bright, cheerful-looking unions that blend so well with original equipment. Even the threads are zinc plated. Pics install speedily with open end wrenches — ends are uniformly flat-sided, uniformly parallel. They're strong too — of heavy steel pipe coupling stock. Special wedge type bronze seat for tight security. Pics are a "buy" price-wise also — they cost *less* than a galvanized, no more than a black malleable union.

*For 150 # Service — Write for FREE Samples

DART UNION COMPANY
130 THURBERS AVENUE, PROVIDENCE 5, R. I.

If you write maker identify as IEN - 7589



Speed machine operation, simplify pushbutton control!

A completely new principle for controlling machinery. . .Warner Electric Brakes and Clutches are simpler, faster, more flexible than conventional oil, air or mechanically actuated units. Open many new design possibilities, new opportunities for improving performance of machinery and developing new products. Wide range of sizes—6 or 90 volts.

WARNER ELECTRIC BRAKE & CLUTCH CO., BELOIT, WISCONSIN

Warner Electric Brake & Clutch Co.
Beloit, Wisconsin
☐ Please send complete data and specifications—Bulletin No. 6069.
Firm Name _____
Individual _____ Title _____
Address _____
City _____ State _____

If you write maker identify as IEN - 7590

DISPENSING . . Air operated unit for self-adhesive tape, foot control

Source: DERBY SEALERS INC.
102 Seymour Ave., Derby, Conn.

Tape issues quickly

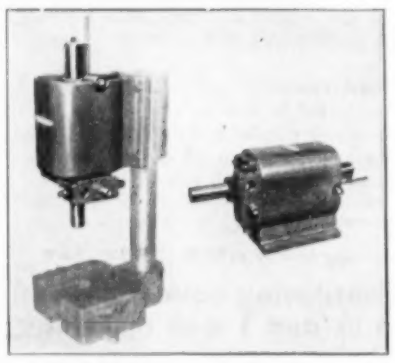
Predetermined length of self-adhesive tape is delivered by this new Grip-A-Tab machine upon depressing a foot pedal. The machine can be loaded with tape in any width from ¼ to 2 in. or in multiple rolls within 2 inches. Length is set at 1½ to 9 in. by turning an adjusting screw. Multiple strokes will provide longer dispensed lengths.

The machine shown in the illustration, Model AF-85, will handle cellophane, acetate fiber, plastic, paper, electric grade tapes, filament, cloth and heavy paper. It takes rolls to 6½ in. in outside diameter. A smaller machine, Model AF-92, will handle the same materials, through the electric grade tapes, taking rolls to 5½ in. in diameter and any width from ¼ to 1 in. or equivalent multiple. Its adjusting screw can set single-stroke delivery between ½ and 5¾ inches. A pressure regulator and gage, in connection with the foot operated valve, is set for desired action.

If you write maker identify as IEN - 7591

HAMMER . . Pneumatic impact unit for light riveting, staking, forming

Source: AIR-HYDRAULICS INC.
216-20 Belden Road, Jackson, Mich.



Impact is adjustable

The head unit of the company's Model Z-2 6-ton impact hammer is now available as a separate unit to be mounted at any desired angle, singly or in multiple in special assemblies designed by the user The head operates at 100-lb. line pressure at 50 strokes per cu. ft. of air and at the rate of 60 strokes per min. with hand or foot control. A solenoid valve and guide rod switches can be added for automatic operation at speeds to 120 strokes per minute. The head weighs 75 pounds. It employs a chromium plated cylinder. The company recommends a 3-in. stroke.

Identify as IEN - 7592

Summer job opportunities, 2,260 of them for engineering students, have been listed by American Society for Metals, 7303 Euclid Ave., Cleveland 13, Ohio. The list has been printed and is available on request. It has been mailed to engineering schools here and in Canada. No charge has been made to the industries seeking help or students for summer work.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7593

Get PLASTITE CHEMICAL PUTTY
FOR TOUGH SEALING JOBS

Where ordinary puttys harden and eventually crumble, PLASTITE never loses its plasticity. It grips firmly, yet is easy to remove. Corrosive fumes don't affect it . . . contact with water or acids can't loosen it. Use PLASTITE for:

- ★ CALKING TOWER PIPE BELLS
- ★ EXPANSION JOINT PACKING
- ★ SEALING PIPE JOINTS
- ★ PATCHING ACID-PROOF MASONRY
- ★ LEAK-PROOFING MANHOLES
- ★ GLAZING PLANT WINDOWS, and many other uses

APPLY PLASTITE EASILY WITH GUN OR TROWEL

Packaged: 1 gallon pails. Price $7.63
Also available in 5 gallon pails and 55 gallon drums.

SEND ORDERS TO:

164-D

U. S. STONEWARE
Plastics - Synthetics Division • Akron 9, Ohio

If you write maker identify as IEN - 7594

INDIVIDUAL VULCANAIRE DUST COLLECTING UNITS

Are used on surface and other grinders where grinding dust must be removed.

Inexpensive, compact units, with no moving parts. Operated from your present air supply.

Installed in a few minutes, eliminating need for costly centrally located dust collecting systems.

The collector element is mounted on the side of the machine. Quickly cleaned, requiring no refills.

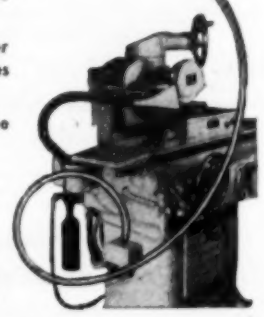
Vac-suction pick-up device (vacuum nozzle) is mounted on the grinding wheel guard or close to grinding wheel on other applications. This mounting permits constant contact with dust as the wheel is moved up or down.

A simple needle valve operates the unit, and can be shut off whenever the machine is not in use.

Available in two sizes: 700 series for grinding wheels 7" dia. or less—200 series for wheels 2" dia. or less.

Made by the makers of Vulcanaire *The* jig grinding attachment.

Write on your letterhead for "Dust Collector" Booklet.



VULCAN TOOL CO.
734 LORAIN ST., DAYTON 10, OHIO

If you write maker identify as IEN - 7595

PITTSBURGH a air p pressure t tested COILS

Pipe Coils — Bends — Boiler Tubes

Built for your particular needs. Send blue print or rough sketch for Pittsburgh quotation. Also air-pressure tested Welded Headers, Welded Ammonia Receivers, Accumulators, Pipe Coils, Boiler Tubes. "Let us quote!"

Ask for Pipe Coil Data Book

Pittsburgh Pipe Coil & Bending Company
Division of Pittsburgh Standard Conduit Co.
61 BRIDGE STREET ETNA, PITTSBURGH 23, PA.

If you write maker identify as IEN - 7596

ROTARY UNIONS
(Trade Name)

Type "S" Rotary Union

What's your Sealing Problem?

Direct factory representatives are available at all of our offices to recommend the right ROTARY UNION for your use . . . or to work out unusual sealing problems.

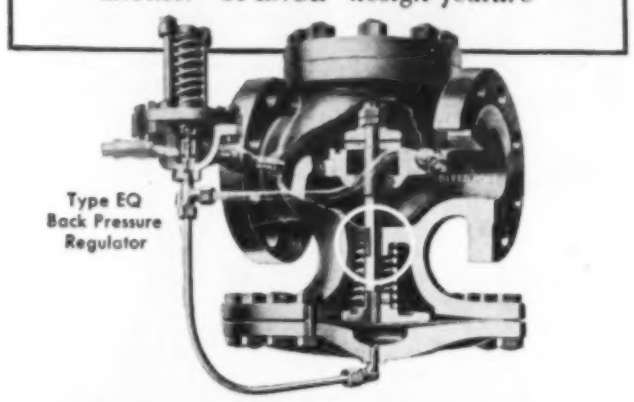
The ROTARY UNION gives the tightest, longest lasting rotating seal you can get. It is a self-contained unit . . . never needs tightening or adjusting . . . built to take strain from moving and sealing parts. Three years perfect service is not uncommon. Contact our Montreal or Toronto office for full information or write Dept. 7E for our Catalog.

"Where *Good Connections* Count"

PERFECTING SERVICE COMPANY
332 Atando Avenue (Home Office and Factory) Charlotte, N.C.
Atlanta - Chicago - Cleveland - Philadelphia - Providence - New York - Montreal - Toronto

If you write maker identify as IEN - 7597

another SPENCE *design feature*



No Stuffing Boxes..

In Spence regulators all main valves and most pilots are built without stuffing boxes. This packless construction is made possible by the use of a large balanced metal diaphragm which eliminates the need for closely fitted parts. Result? More accurate regulation. • Valve stem wear is also reduced in the Spence packless design. Result? Low maintenance, years of trouble-free service • Write for Bulletin 500 giving full details of complete Spence line of automatic regulating valves.

SE-125

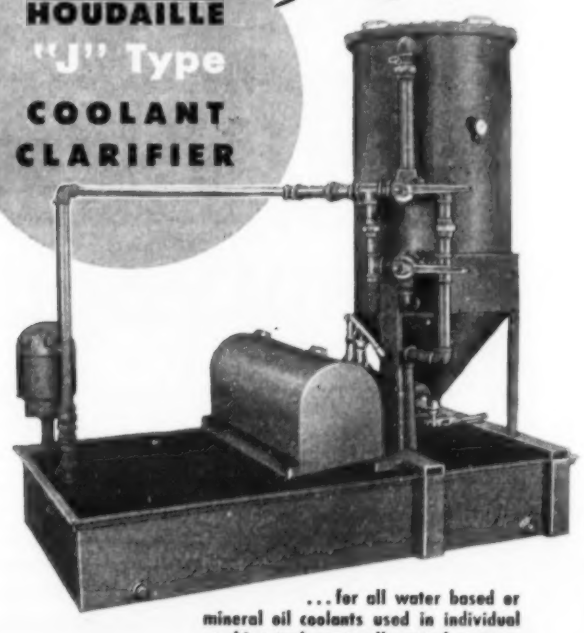
SPENCE ENGINEERING COMPANY, INC.
WALDEN, NEW YORK

If you write maker identify as IEN - 7598

greater filtering capacity!
lower operating cost!

new

HOUDAILLE "J" Type COOLANT CLARIFIER



...for all water based or mineral oil coolants used in individual machine tools or small central systems

NEW MULTI-TUBE DESIGN FEATURES

16,000 SQ. INCH FILTERING AREA	Assures complete removal of chips, abrasives, dirt and other solid contaminants. Keeps coolant clean, safe for re-use indefinitely.
SELF-CLEANING FILTER TUBES	Self-cleaning filter tubes, washed free of contaminants during brief backwash interval, require no manual cleaning or maintenance ... provide maximum filtering efficiency at all times.
ECONOMICAL OPERATION— NO PRECOATING OR FILTER AIDS	Practical design provides dependable, trouble-free operation ... eliminates all need for precoating, filter aids, or expendable filtering media.

● Compact, multiple filter-tube unit increases production, reduces downtime, extends tool and wheel life, allows better product finishes with fewer rejects. For complete details write ...

HONAN-CRANE CORPORATION
525 Madison Avenue, Lebanon, Indiana
a subsidiary of
HOUDAILLE-HERSHEY CORP.

WORLD'S LEADING OIL FILTER MANUFACTURER

If you write maker identify as IEN - 7600

BENDING .. Circular shapes in specified metals and dimensions

Source: AUTO-DIESEL PISTON RING
3123 Superior Ave., Cleveland 14, Ohio

To your special order

The company has added a new service to its regular manufacture of piston rings in which it is prepared to supply circular shapes in specified metals and dimensions. The work is handled on equipment installed for this particular purpose.

Two typical shapes are shown in the illustration. Strip, square or round solid stock, tubing, angles or channels can be handled. Sizes range to ½-in. square bar stock. Strip material ranges from $\frac{1}{16}$ in. in thickness and to 1½ in. in width.

If you write maker identify as IEN - 7601

STRIPPING .. Paint remover for production pieces and work hangers

Source: WHITFIELD CHEMICAL CO.
14223-27 Schaefer Hy., Dept. 9-B, Detroit 27, Mich.

Non-flammable
non-volatile

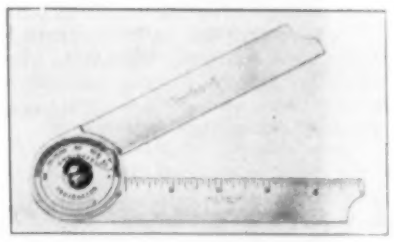
Alk-A-Sol is a new paint stripping liquid for use in steel tanks at temperature between 100 and 225 deg. F. Work pieces and hangers that have become coated with paint and resins are immersed in the liquid to be followed by a rinsing operation to remove the paint or resin.

It will loosen enamels, varnishes, lacquers, containing melamine, alkyd, methacrylate, polyamide, ureaformaldehyde, phenolformaldehyde and Epon resins. Five grades are available for given applications.

If you write maker identify as IEN - 7602

GAGE .. Plastic protractor with magnified scale, graduated arm

Source: WAY-MAC MFG. CO.
8110-14 Melrose Ave., Los Angeles 46, Calif.



$2 each

Circular scale on this new Tractograph protractor reads from 0 to 180 degrees. The scale is read through a magnifying "dome", molded in as an integral part of the transparent plastic. Mathematical formulae are printed on the reverse face of the graduated arm which reads in sixteenths to 5 inches. The gage edges are beveled. Dimensions are 2 by 7 in. in closed position.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

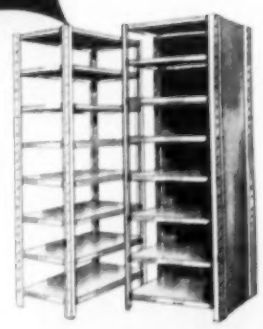
If you write maker identify as IEN - 7603

IMMEDIATE DELIVERY

Equipto
Iron-Grip Steel Shelving

Exclusive stud eliminates nuts, bolts, or tools . . . speeds shelf assembly

- Each shelving unit is complete in itself . . . fits with all other units
- New units may be added later . . . rearrangements made anytime.
- All shelves are instantly adjustable with studs on 1½" centers. There are no nuts, no bolts, no ungainly clips.
- Unlimited arrangement of units, shelves, and dividers, custom tailor these Equipto stock units to your exact storage needs.



- Units are available in all sizes, either open or closed, with or without dividers, bin fronts, and drawers.

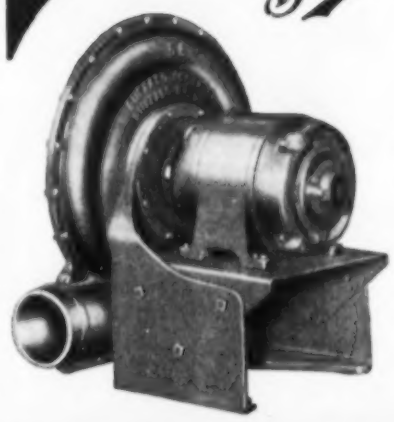
Write Today for Free Catalog of Complete Line

Equipto
Division of Aurora Equipment Co.
655 Prairie Ave., Aurora, Illinois
MANUFACTURERS OF STEEL SHELVING . . . PARTS BINS . . . DRAWER UNITS

If you write maker identify as IEN - 7604

FOR FLEXIBILITY AND LOW COST
ON FURNACE DRAFT, CLEANING, DRYING, LINE BOOSTING

USE *"Buffalo"* **"E" BLOWERS**



These husky, compact blowers are available in 12 sizes (from 30 to 5500 cfm against pressures up to 2 pounds.) You can install individual units exactly where you need them at lower-cost than a single, large blower. Rugged cast-iron housings and sturdy, factory-balanced rotors assure added years of satisfaction.

WRITE TODAY FOR BULLETIN 3014-D

BUFFALO FORGE COMPANY
496 Broadway Buffalo, N. Y.
Publishers of "FAN ENGINEERING" HANDBOOK
Canadian Blower & Forge Co., Ltd., Kitchener, Ontario
Sales Representatives in all Principal Cities

If you write maker identify as IEN - 7605

Protects **AIR TOOLS AND EQUIPMENT**

against rust, scale and condensation in the air line ...provides constant lubrication

The Keller Lubricator-Filter operates automatically when air tools or equipment are in operation. Filter removes moisture as well as solids—easily cleaned by opening drain cock at bottom. Oil feeds from the lubricator through an upright wick—no flooding or waste when tools are not in use.

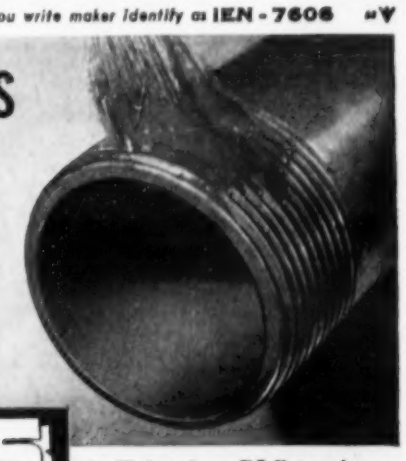
Transparent bowls show when filter needs draining, or when light spindle oil should be added to lubricator. Write for descriptive Bulletin #65-5.

Send for **illustrated descriptive bulletin and detailed information**

Keller Tool Company
GRAND HAVEN, MICHIGAN

If you write maker identify as IEN - 7606

IT COSTS LESS TO USE THE BEST!



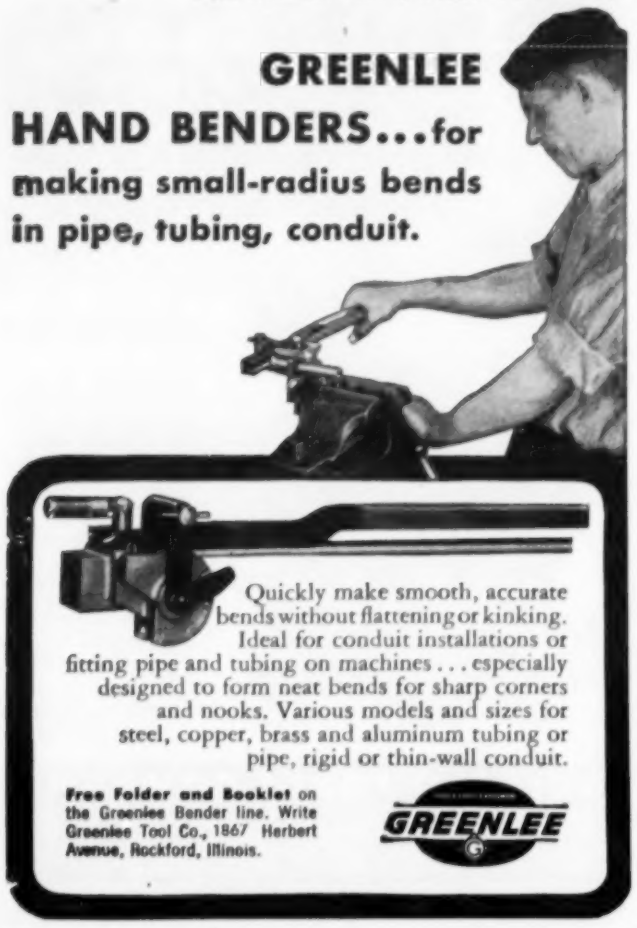
PLS

1. Takes less PLS to give a perfect seal.
2. One compound for many services: water...oil...gas...steam...chemicals...petroleum products—low and high pressures.
3. Never washes out—one application lasts forever.
4. Never hardens: joints may be easily broken after years of service—no damaged connections.

Prove it to yourself. Send for a free sample. Crane Packing Company, 1815 Cuyler Avenue, Chicago 13, Ill.

JOHN CRANE — CRANE PACKING COMPANY

If you write maker identify as IEN - 7607



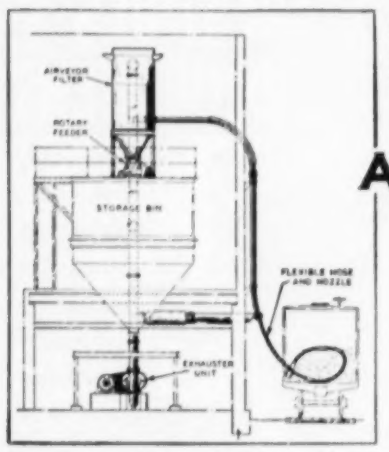
GREENLEE HAND BENDERS...for making small-radius bends in pipe, tubing, conduit.

Quickly make smooth, accurate bends without flattening or kinking. Ideal for conduit installations or fitting pipe and tubing on machines . . . especially designed to form neat bends for sharp corners and nooks. Various models and sizes for steel, copper, brass and aluminum tubing or pipe, rigid or thin-wall conduit.

Free Folder and Booklet on the Greenlee Bender line. Write Greenlee Tool Co., 1867 Herbert Avenue, Rockford, Illinois.

GREENLEE

If you write maker identify as IEN - 7608



Airveyor handling pebble lime in a large steel mill, unloading from cars at rate of 7½ tons an hour.

AIRVEYOR keeps your handling costs ...down

Conveying dry, pulverized and granular materials such as lime, soda ash, flour, sugar, clays, borax, cellulose acetate, magnesium, and numerous other materials with the Airveyor offers many definite savings you cannot afford to overlook . . . lower cost of bulk over bagged materials . . . lower cost of unloading, storing, and in-plant rehandling of such materials. These advantages are yours, plus clean and dustless operation, minimum labor and convenience in reclaiming from storage for delivery to process . . . with the Airveyor.

If your problem involves bulk handling of dry pulverized and granular materials, call on Fuller's 26 years of specialized experience. You can save time and money by calling Fuller . . . get in touch with us, while your plans are in the formative stage.

Write for Bulletin G-1, illustrating and describing the four basic types of conveying systems manufactured by us.

A-169A
2030

Fuller FULLER COMPANY, Catasauqua, Pa.
Branch offices: Chicago—San Francisco—Seattle
Los Angeles — Birmingham

If you write maker identify as IEN - 7609

Automatically SOUNDS SIGNALS, OPERATES EQUIPMENT ON ACCURATE SCHEDULES

Montgomery PROGRAM CLOCKS & INDUSTRIAL TIMERS

Program clocks for automatic control of signal systems, governing work periods, permitting manual operation for special programs or emergency alarms without affecting accuracy of pe-set schedule.

Industrial timers start and stop equipment automatically to a pre-set schedule. Wide application for shop and laboratory operations. Special timing equipment engineered to your requirements.

Request free specification and data sheets

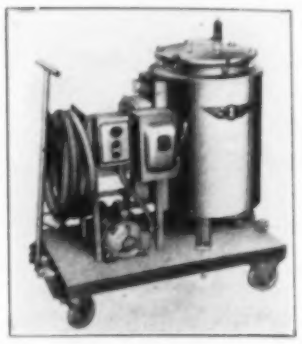
MONTGOMERY MANUFACTURING CO., Owensville 8, Ind.
Please send free Industrial Timer data sheets

Name .....
Position ..... Company .....
Address ..... City ..... State .....

If you write maker identify as IEN - 7610

FILTERING . . Portable equipment removes solids from oils in a machine

Source: U. S. HOFFMAN MACHINERY CORP.
221 Lamson St., Syracuse 6, N. Y.



Rolls to the job

Hydraulic and coolant oils, in equipment of various types, can be drawn out, cleaned and returned to supply reservoirs by this new portable machine without interfering with normal production operations. The assembly includes a cartridge type filter, a motor driven pump and controls, the required hoses and connections. The oil is drawn out, passed through the filter and returned clean for further service.

Two models rate 30 and 60 gph. at the pump. The filter can be employed with repackable or throw-away cartridges for Fuller's earth or cellulose refills. Operating pressure is maximum at 60 lb. and temperature is to 160 deg. F. Two hose lengths, for intake and return, measure 8 ft. each in length. The machine measures 36 by 20 by 44 or 62 inches. The smaller filter holds 6 gal. of oil. The larger one holds 9 gallons. An electric heater, employed with each unit to promote the oil flow and filtering action, rates 2 or 3 kw.

If you write maker identify as IEN - 7611

TRUCK . . Plate clamp attachment to handle products in crates, boxes

Source: AUTOMATIC TRANSPORTATION CO.
149 W. 87th St., Chicago 20, Ill.

The plates close in

Crate Handler designates a new hydraulically operated plate type clamping attachment to mount on the 1-ton Skylift fork truck in place of the forks. It has a clamping range from 22 to 70 in. in width. It is controlled by a lever located at the operator's position.

The operator spreads the clamp arms to a point beyond the load width. He then moves his truck in until the back plate contacts the load. At this point he operates the clamping lever to close the plates in on the two sides simultaneously. While they are holding, he lifts the load or lowers it. The clamping arms are self-compensating to apply equal force on both sides. The attachment can be removed and replaced by the regular forks or by other attachments in the line which the company can supply.

Identify as IEN - 7612

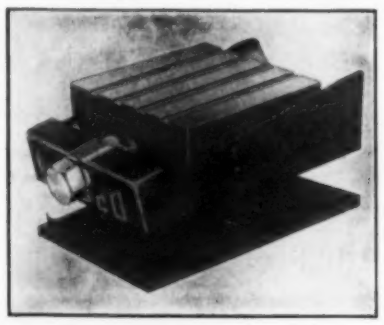
A free pint of Penetrol and a copy of new descriptive literature is offered by the maker, Flood Co., Hudson, Ohio. The liquid material is a dispersible oil. It penetrates quickly through surface corrosion to reach the base metal. It inhibits further corrosion. It is a good vehicle for aluminum.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7613

A PAID NEWS ADVERTISEMENT BY ENTERPRISE MACHINE PARTS CORP.

Improved Machine Leveling Jack is 50% stronger yet lower in height



Engineering improvements have made this Jack 50% stronger yet lower in height. This was accomplished by redesigning the Empco Jack so that the adjusting screw always remains cradled in the assembly. This insures full bearing of either front or back collar at any stage of operation.

Once the machine is set on **Empco Jacks,** the simple turning of adjusting screw with a hand wrench will lower or raise the machine until your level indicator reads "zero." With this feature, periodic machine leveling can be done in a matter of minutes.

To reduce vibration, Vi-Sorb Mounting Pads are available with each style Empco Jack. These pads substantially reduce vibration, the percentage of reduction usually depends upon the thickness of the pad that is used.

Level machine installations with periodical re-leveling is essential to lower costs of machine maintenance. These costs are further reduced by the use of Vi-Sorb Mounting pads under every Empco Leveling Jack.

Available in three styles: JC-1 (standard) and JC-2 (heavy duty) pictured here, and the newest style JS particularly designed for use with anchor bolts. Many models in all styles with minimum height ranging from 1⅞" to 4".

For complete specifications and prices write the Enterprise Machine Parts Corporation, 2737 Jerome Ave., Detroit 12, Michigan.

If you write maker identify as IEN - 7614

NEW— Instrument Data Book

Just off the press — 60 pages of Dwyer Precision instruments for checking combustion, draft, pressure, vacuum, flow, static pressure, velocity, CO_2, smoke, temperature and other media.

F. W. Dwyer Mfg. Co.
307 South Western Avenue
Chicago 12, Illinois

Write for Your Copy Today!

If you write maker identify as IEN - 7615

It will pay you to consider "SUPER-SOAK" PARTS WASHERS

Simple — Practical.

Based on an old, proved principle.

No pumps, sprays, and no handwork.

For the removal of foreign substances, oils, grease, chips, etc., from metal parts.

A very satisfactory "job" at a low cost.

Please write for details.

THE SUPER-SOAK COMPANY, INC.
3770 South Pennsylvania Ave. • Milwaukee 7, Wis.

Good Sales-territory still open.

If you write maker identify as IEN - 7616

EVERY SHOP NEEDS THIS

LOW-COST PRECISION MILL!

BENCHMASTER
LOW COST MILLING MACHINE
does the work faster, easier, accurately, and economically!

MILLS VERTICALLY OR HORIZONTALLY by changing spindle assemblies, DRILLS, GRINDS, TURNS. Chatter-free, long life, high-precision.

Write for FREE literature.

benchmaster PUNCH PRESSES AND MILLERS
1835 West Rosecrans Avenue, Gardena, California

If you write maker identify as IEN - 7617

32 Pages of Helpful Information on Dust Recovery Systems

If you are now using dust or fly ash recovery equipment in your plant—or are planning installation of such equipment now or later—you will find this 32 page Multiclone booklet full of helpful information. Illustrations and diagrams outline basic principles of dust recovery and how to utilize them for maximum efficiency . . . how to simplify your installations . . . how to conserve voluable plant space . . . how to get high recovery over a wide range of particle sizes, etc. ***A copy of this booklet should be in your files for reference and assistance in dust recovery applications. A free copy will gladly be sent you on request. Write today while supplies are adequate***

WESTERN Precipitation CORPORATION

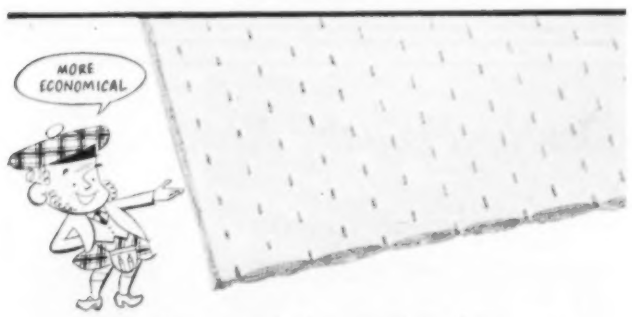
ENGINEERS, DESIGNERS & MANUFACTURERS OF EQUIPMENT FOR COLLECTION OF SUSPENDED MATERIALS FROM GASES & LIQUIDS

Main Offices: 1011 WEST NINTH STREET, LOS ANGELES 15, CALIFORNIA
CHRYSLER BLDG., NEW YORK 17 • 1 N. La SALLE ST. BLDG., CHICAGO 2
1429 PEACHTREE ST. N.E., ATLANTA 5 • HOBART BLDG., SAN FRANCISCO 4
PRECIPITATION CO. OF CANADA, LTD., DOMINION SQ. BLDG., MONTREAL

If you write maker identify as IEN - 7618

"Standard" KIMPAK Type 301

The new economical, general-purpose interior packaging material



Now — the unmatched protection of KIMPAK* at a price that challenges low-cost materials. That's the remarkable advantage of new "Standard" KIMPAK—Type 301!

And this latest addition to the KIMPAK line is designed with these general-purpose features to meet your particular needs:

- Complete range of standard thicknesses
- Widest selection of standard backing papers
- Plain or embossed at the same low price
- Available in rolls or sheets
- Widths from 2" to 60"

No other interior packaging material compares with New "Standard" KIMPAK 301. To convince yourself, contact your KIMPAK distributor or write for samples and complete information. Dept. P-73, Kimberly-Clark Corp., Neenah, Wisconsin.

KIMPAK INTERIOR PACKAGING

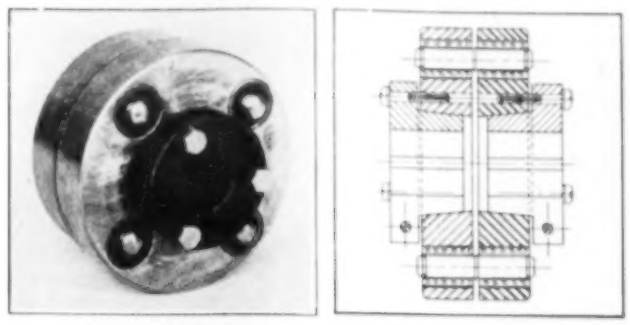
*T. M. REG. U. S. & FOREIGN COUNTRIES

A Product of Kimberly-Clark

If you write maker identify as IEN - 7620

DRIVE . . Flexible coupling for angular and parallel misalignment

Source: SMITH POWER TRANSMISSION CO.
1543-47 E. 23rd St., Cleveland 14, Ohio



Flanges float freely

Identical flanges mount compressed rubber bushings between inner and outer steel sleeves in this new coupling. The inner sleeves are lined with a fabric type of bearing material that absorbs lubricant for sliding contact with the drive pins. They are held in place by centrally located snap rings that do not interfere with free axial movement of either flange. The driving force results in a twisting action of as much as 15 degrees.

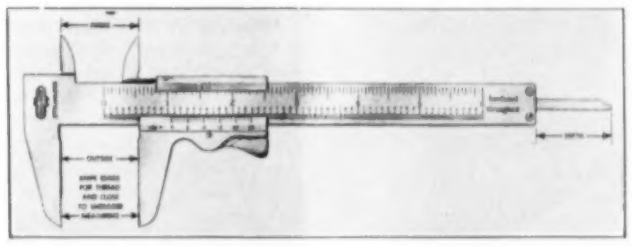
The flanges are taper bored and are fitted with flanged tapered split bushings to grip the driving and driven shafts in quickly removable design. The complete coupling can be opened for vertical removal of a driving motor or shaft.

Three sizes have bores maximum at 1¼, 1⅝, and 2-7/16 inches. Outside diameter is 3½ to 6 inches. Length over the hub bolts is 4⅛ to 6⅞ inches. The driving pin circle is 3½ to 6 inches. Rating is 2, 4 and 8 hp. per hundred rpm. with service factors of 2, 3 and 4 for smooth loads, loads involving vibration and reversing and shock service.

If you write maker identify as IEN - 7621

GAGE . . Vernier caliper to measure inside, outside and depth

Source: GEORGE SCHERR CO.
202 Lafayette St., New York 12, N. Y.



Ask for Mauser Bulletin

Stainless steel is employed in the manufacture of this new Model-101 Mauser 6-in. vernier caliper. It supersedes the No. 64, previously described IEN-7280-48. The vernier scale is made with 25 lines covering 40 graduations on the scale for quick accurate reading without eye strain. A new slide has a self-lubricating bronze spring gib. Two adjusting screws take up wear and assure squareness of the measuring jaws. Measuring surfaces are lapped.

Three scales and verniers read thousandths on the lower front, 1/128th-in. divisions and fractions on the upper front and 0.1 mm. on the back. List price is $14.75.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7622

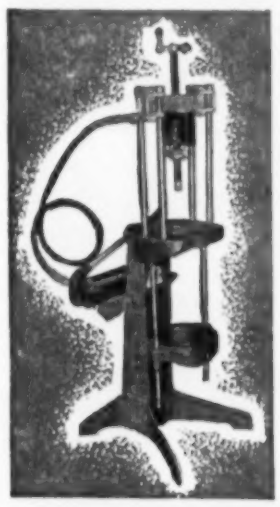
If you write maker identify as IEN - 7623

OTC 17½ TON HYDRAULIC

OPEN THROAT PORTABLE PEDESTAL PRESS

ONLY $199.95

SAVES HOURS AND DOLLARS ON EVERY JOB



An unbelievably low price for this amazingly efficient Portable Pedestal Press and 17½ ton Power-Twin Hydraulic Puller . . . a must for every maintenance shop. Pays for itself on the first few jobs in time, tools and money saved.

Use it for pressing bearings, bushings, pins, for bending, straightening, compressing, spreading, etc. Move it where you want it—it's portable.

STRONG . . . will handle 95% of all pulling or installing jobs.

COMPACT . . . Base is only 20" x 21" — 34¼" from top of press plate to floor. Press Plate throat is 7½" deep, 6" wide, 10½" clearance between uprights; 11" from Ram to press plate with almost unlimited vertical adjustment. Weighs less than 200 lbs.

VERSATILE . . . POWER-TWIN Hydraulic Unit may easily and quickly be detached for field service or other pulling jobs.

INEXPENSIVE . . . dollar for dollar . . . ton for ton . . . the lowest priced, most rugged and efficient Hydraulic Press on the market.

See your jobber for complete information or write us.

OWATONNA TOOL CO.
371 CEDAR STREET • OWATONNA, MINNESOTA

If you write maker identify as IEN - 7624

THE *Best* CASTER FOR YOUR PRODUCT

RALCO ROLLER

Rolls easily on rough surfaces, carpets, etc. Turns easily in any direction. Rolls right over cracks, wires and other obstructions. That's because Ralco Rollers' patented angle mounting gives the roll-over of a wheel twice its size. Models and sizes for every purpose.

WRITE FOR CATALOG

LISLE Corporation
CLARINDA, IOWA

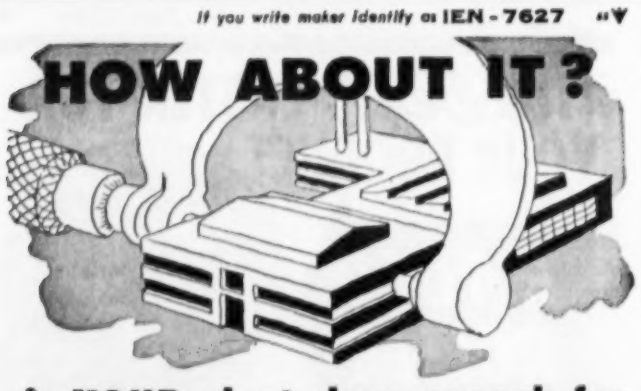
If you write maker identify as IEN - 7625

If you write maker identify as IEN - 7626

LANSING, MICHIGAN

LANSING CO.
LANCO MATERIAL HANDLING EQUIPMENT

If you write maker identify as IEN - 7627



is YOUR plant clean enough for precision defense production?

Model 218

Don't sabotage your plant facilities with dirt and debris. Clean plants measure up to defense production standards.

Send for important Doyle Vac-It information today. There's no obligation.

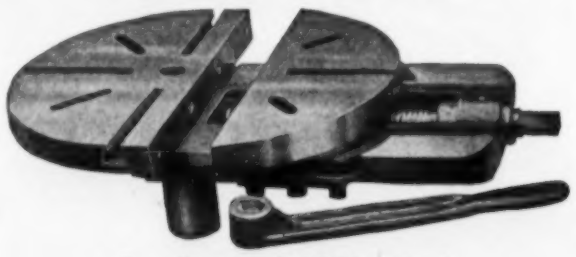
Doyle VACUUM CLEANER CO.
2235 Stevens St., S. W. Grand Rapids 7, Michigan

If you write maker identify as IEN - 7628

Try the MODERN

SAFETY DRILL TABLE

Under our FREE TRIAL OFFER



For Faster, SAFER Work in your Maintenance Department

Combines a drill table, a vise, a set of parallels and V block. No more lost fingers from hand held jobs that slip. No more 30 minute set-ups for a 1 minute drilling operation. Made in 6 sizes from 8" to 28" dia. We guarantee each Safety Drill Table will save its cost on labor alone in 6 months, to say nothing of plant down time when vital maintenance is delayed even a few minutes.

Write for Free Folder

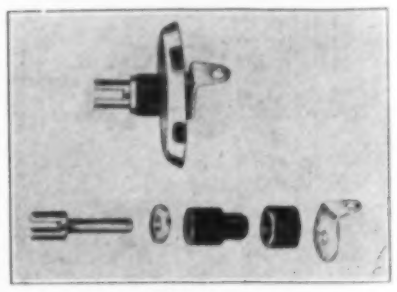
Shows many typical set-ups, and use on radial drills. Complete specification on all models. Covers MONEY BACK GUARANTEE and 30 DAY FREE TRIAL OFFER.

MODERN MACHINE TOOL CO.
JACKSON MICHIGAN

If you write maker identify as IEN - 7629

CONNECTOR . . Electric terminal in plastic hermetic sealing assembly

Source: STRAT-O-SEAL MFG. CO.
3037-41 W. Fullerton Ave., Chicago 47, Ill.



Unlimited shelf life

Strat-O-Seal trade names a new line of hermetic sealing connectors initially developed for military uses and now generally available. Illustrated is one of several designs in the line. It is known as the double gland seal and is available with a hollow tube, a turret stud or the slotted stud design shown. This particular unit applies in a hole in a cover for a sealing enclosure.

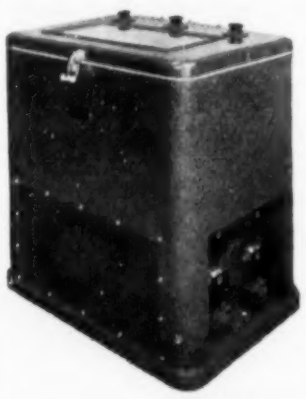
Other designs are in single and multiple assembly to meet given requirement. Each employs silicone and Teflon as sealing members to serve in a temperature range between minus 100 and plus 500 deg. F. Tests indicate leakage to be less than 1 cc. of air in 31 years at a pressure differential of one atmosphere.

The line includes assemblies with gas container type terminals, miniature type, arc resistant and arc resistant gas container. The company has prepared technical data illustrating and describing each of the designs. The unit illustrated lists at $75 per thousand.

If you write maker identify as IEN - 7630

REFRIGERATING . . Sub-zero machine particularly for testing applications

Source: SUB-ZERO PRODUCTS CO.
3930 Reading Road, Cincinnati 29, Ohio



Instruments to order

Illustrated is a new design of the Sub-Zero Test Chamber, previously described in IEN-3405-53. The lid in this new unit is equipped with a frost proof observation window and the interior is illuminated. Entrance ports are available in the lid also. Sizes range from 1.5 to 4 cubic feet. Temperature range is minus 10 to minus 120 deg. F. Floor space is 7.5 square feet.

Identify as IEN - 7631

Watch out, if you are using equipment that emits radio frequency energy and you have not taken adequate steps to shield it. Deadline for crack-down by the FCC was June 30. Diathermy equipment, induction and dielectric heating equipment are examples. Mobile monitors with direction finders are looking now for offenders.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7632

If you write maker identify as IEN - 7633

High Stamping Costs Got You Down?

If your problem is keeping production costs down and output up, here is a line of Clearing presses designed for you. Just right for the many stamping jobs found in the medium tonnage range, these presses give you top economy in terms of first cost, low maintenance and efficient operation. Find out more about Clearing Double Crank Straight Side Presses today.

Write for free folder.

CLEARING MACHINE CORPORATION • 6491 WEST 65TH STREET • CHICAGO 38, ILLINOIS
HAMILTON DIVISION • HAMILTON, OHIO

If you write maker identify as IEN - 7634

MULTIPLE BENDING SAVES DOLLARS

Here is a Pedrick Production Bender producing five identical frames simultaneously. These savings can be yours too with a Pedrick bender. Multiple bending is adaptable to almost all bending operations, including pipe, tube, reinforcing bars or structural shapes.

Smaller and larger machines available.

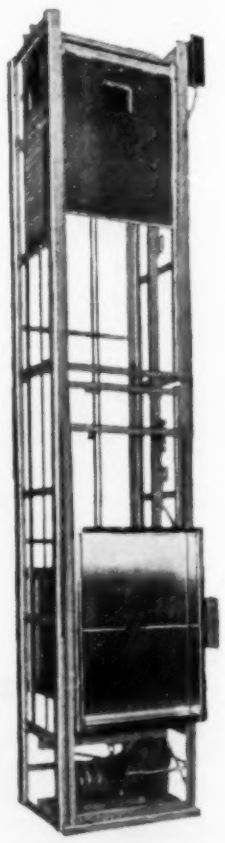
Write for descriptive folder

PEDRICK TOOL & MACHINE CO.
3640 N. Lawrence St., Dept. 7, Phila. 40, Pa., U.S.A.

If you write maker identify as IEN - 7635

Doubly-Profitable Remodeling Tip:

install labor-saving MATOT DUMB WAITERS



Space, time, labor and related savings are practically unlimited with MATOT "Not-so-dumb" dumb waiters—in factories, stores, institutions.

Only MATOT offers extra automatic features for faster service and trouble-free operation.

Hotels, restaurants, institutions, schools, industry and commercial buildings will profit with MATOT installations. Obviously, there's profit in such installations for you too.

MATOT Equipment Includes:

- Electric Dumb Waiters
- Hand Powered Dumb Waiters
- Hand Powered Elevators
- Invalid Elevators

See Sweet's File 33A for complete information, or write now for 8-page MATOT Catalog and Specification Guide.

D. A. MATOT, INC.
1539 W. Altgeld St. • Chicago 14, Ill.

If you write maker identify as IEN - 7636

● You can obtain custom-cut felt parts from American, ready for assembly. Gaskets, washers, seals, wicks, discs — any shape you need, with tolerances to meet your specifications.

QUICK DELIVERY — American operates four strategically-located cutting shops at: Glenville, Conn., Detroit, Mich., Los Angeles and San Francisco, Calif. These deliver promptly.

QUALITY — American produces felt to exact specifications, uniform in density, blend, thickness, strength. We will cooperate with you in designing felt parts and specifying the right felt for commercial or government applications.

QUOTATIONS — Write to above address.

American Felt Company
TRADE MARK

GENERAL OFFICES:
18 GLENVILLE ROAD,
GLENVILLE, CONN.

If you write maker identify as IEN - 7637

How to get longer life out of your portable cords and cables

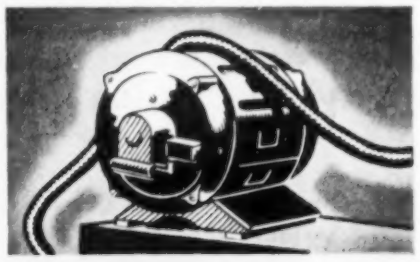
1 USE junction or distribution boxes for making multiple power connections in working places.

2 PROTECT cables with fuses or circuit breakers of the proper rating for the service. Make sure that circuit breakers will operate properly.

3 PROTECT cables from being run over by heavy equipment. Running over the cable a few times may not cause immediate failure, but may do internal damage which will shorten its life. If the cable must be run across an aisle, place boards on either side as one would for a hose. If it is in use for only a short time, it should be thrown over the truck.

4 USE flame-resistant cables wherever possible.

5 DO NOT have portable cords and cables running over steam pipes or other heat-transmitting equipment.



6 KEEP cables away from sparking motors and high voltage equipment. The ozone generated by sparking commutators attacks rubber jackets, causing cracking.

7 AVOID overloading of cables. Where possible, use I.P.C.E.A. recommended current ratings.

8 AVOID dragging portable cords around rough edges or sharp corners. Bruises and cuts hasten deterioration of the jacket. Never yank cords to remove kinks or loosen them when caught on a projection.

9 AVOID running portable cables on pulleys or drums too small for the size of the cable; observe recommended I.P.C.E.A. minimum diameters.

10 KEEP cords away from oils and greases. If they do get into oil, they should be wiped off as soon as possible. Avoid having cords lie in pools of water, chemicals or grease.

11 BUY cables that can carry the required current without overloading or overheating. They should be flexible (have sufficiently fine strands) for the intended use.

FOR FREE REPRINTS, WRITE TO ADDRESS BELOW.

UNITED STATES RUBBER COMPANY

Electrical Wire and Cable Department
ROCKEFELLER CENTER • NEW YORK 20, NEW YORK

U.S. RUBBER

If you write maker identify as IEN - 7639

WEIGHING . . Over and under scale, load capacity 50 to 1,500 grams

Source: EXACT WEIGHT SCALE CO.
942-46 W. Fifth Ave., Columbus 8, Ohio

Center Tower design

Series 4200 is a new addition to the Shadograph line of precision scales in which a reflected shadow indication of weight is produced by an arm extension on the moving levers. The extension intercepts a beam of light from a lamp to cast the shadow on a frosted glass dial through condensing and projecting lenses and reflecting mirrors for frictionless operation. The scale is available in a capacity range from 50 gm. with sensitivity of 10 milligrams to 1,500 gm. with sensitivity of 350 milligrams.

If you write maker identify as IEN - 7640

SOLDERING . . Non-acid flux eliminates need to clean the work

Source: LAKE CHEMICAL CO.
3050-54 W. Carroll Ave., Chicago 12, Ill.

Particularly for pipe fittings

La-Co trade names a new flux, available in paste form, for application on work pieces prior to soldering. It promotes flow of solder by capillary action for smooth even distribution in a joint. The material will act through corrosion, oil, grease, to make a leak tight connection. It represents further development of Flux Stik previously described IEN-2488-47.

If you write maker identify as IEN - 7641

FLOORS . . Molded rubber mat particularly suited for industrial use

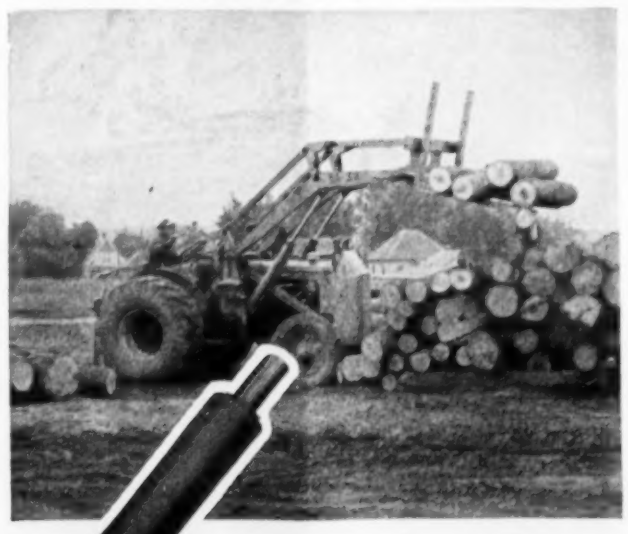
Source: BYRON JACKSON CO.
1902 E. 65th St., Los Angeles 1, Calif.

Color is black

Non-slip safety is combined with comfortable footing by this new oil and grease resistant molded rubber mat. It is designed to stand up under heavy foot traffic and the cutting action of metal chips. Application can be made indoors or outside. The mat is particularly suited for use at machines and benches where workers must stand for considerable periods of time. Standard size is 32 by 32 inches. This unit can be cut into 8-in. squares, or multiples of four for stair tread use.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7642



CYLINDERS.
Single acting
Double acting
Telescopic

COMMERCIAL HYDRAULIC OIL
Fluid Power Controls

are REDUCING COSTS and INCREASING PRODUCTIVITY for the home building industry.

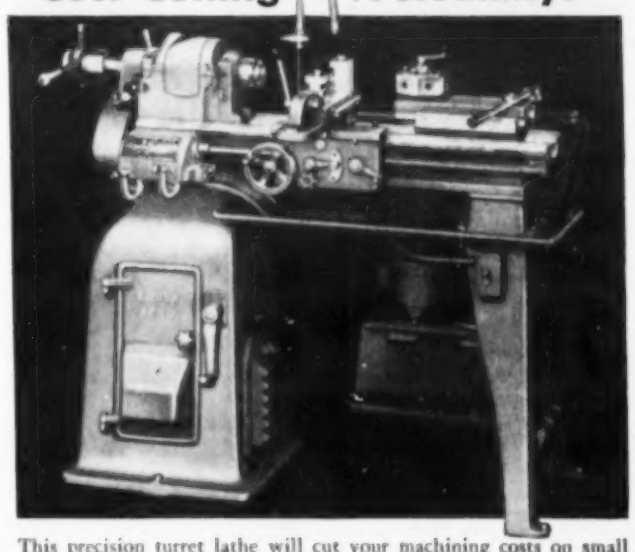
FOR COMPLETE DETAILS ASK FOR YOUR COPY OF CATALOG H-7

THE "COMMERCIAL" SHEARING AND STAMPING COMPANY
YOUNGSTOWN, OHIO
CHICAGO, ILL.
SALT LAKE CITY, UTAH

If you write maker identify as IEN - 7643

SOUTH BEND 1000 Turret Lathe

Cost-Cutting Versatility!



This precision turret lathe will cut your machining costs on small parts. Its accuracy, ease of operation and wide ranges of speeds and feeds insure high production and close tolerances. Practical attachments simplify tooling—and often eliminate need of special fixtures. Find out how this versatile turret lathe can improve your machining. —*Write for Catalog Now!*

SOUTH BEND LATHE
SOUTH BEND 22, INDIANA
Building Better Tools Since 1906

If you write maker identify as IEN - 7644

Used in this typical application for sensing temperature of hydraulic oil.

precision-made to your needs . . . BENDIX-FRIEZ thermistors

Maybe your need for these temperature responsive resistors can be satisfied by a type we carry in stock. Maybe you require a specially-developed type. In either case, you can depend on Bendix-Friez to provide precision-made thermistors to serve you with maximum efficiency. High standards of quality control in manufacture make Bendix-Friez Thermistors pre-eminent in their field—assure you of utmost satisfaction.

STANDARD TYPES FOR IMMEDIATE DELIVERY

Size (inches)	@ +30°C.	@ 0°C.	@ −30°C.
.140 x .75	45.0 ohms	86 ohms	194 ohms
.040 x 1.5	12,250 ohms	26,200 ohms	65,340 ohms
.018 x 1.5	35,000 ohms	82,290 ohms	229,600 ohms

Write for details.

FRIEZ INSTRUMENT DIVISION of Bendix
AVIATION CORPORATION

1428 Taylor Avenue, BALTIMORE 4, MARYLAND
Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

If you write maker identify as IEN - 7645

a new high in . . . Safety

Dayton Safety Ladders, with exclusive "safety level" working platform, make high jobs "ground safe". Check the "big 6" features that make Dayton your best buy:

1. Rail-guarded "Safety Level" platform.
2. Locks in place automatically.
3. Rubber safety shoes.
4. Light weight—great strength.
5. Economically priced.
6. Complete size range 3′ to 16′ in height (to platform).

MAIL TODAY

Dayton Safety Ladder Co., Dept. J
2339 Gilbert Ave., Cincinnati, O.
Gentlemen: Please send free literature, prices, etc. on your Model A Safety Ladder.
Name_____
Company_____
Address_____
City_____ State_____

Dayton *safety ladder co.*
2339 Gilbert Ave., Cincinnati, Ohio
In Canada—Safety Supply Co.—Toronto

If you write maker identify as **IEN - 7646**

better paint job with Red Devil Paint Conditioner

Paint pepped up by Red Devil Paint Conditioners goes on more smoothly, and better protects your product. Patented 3-directional motion (22 shakes per second) puts pigment in perfect suspension—quick!

NOT JUST PAINT

Manufacturers of everything from printers' ink to putty use these machines to mix, blend, and rejuvenate all kinds of high-viscosity and low-viscosity mixtures.

If you have hard-to-mix, or *hard-to-keep-mixed blends,* Red Devil can arrange to have test samples agitated at a nearby location.

Various models provide automatically-timed agitation for ¼ pint to 5 gal. cans. Attachments for round and square containers.

Red Devil Catalog No. 21M lists all Red Devil three-way agitators and Red Devil floor maintenance machines. Write Red Devil Tools, 129 Coit Street, Irvington, New Jersey.

Products of 1520 — Red Devil Tools. 129 COIT ST. IRVINGTON 11, N. J. U. S. A.

If you write maker identify as **IEN - 7647**

Economy ELEVATING Table

For feeding sheet stock, supporting fabricated frames, handling heavy dies, or as a portable work bench. All four sides are accessible to the user.

Lifting and lowering load is hand operated. Crank handle can be attached and operated from either end, with two speed lifting. Self locking worm and screw elevating mechanism holds work at any height without danger of falling. A foot operated floor lock holds table stationery when in use.

Capacity of 2,000 lbs. Dimensions—top 24" x 36", min. height 24", max. height 42".

ELEVATING TABLE EXTENDED

PRICE F.O.B. CHICAGO $210.80

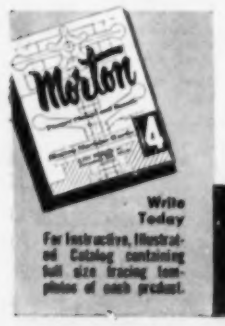
ECONOMY ENGINEERING CO.
4509 W. Lake St.,
Chicago 24, Ill.

If you write maker identify as **IEN - 7648**

RELY ON **Morton** FIXTURE CLAMPS and COMPONENTS

BACKED BY 30 YEARS OF FINE TOOL MAKING

● *Immediate Delivery on STANDARDS!*



Write Today
For Instructive, Illustrated Catalog containing full size tracing templates of each product.

Standards can be modified to suit your application.

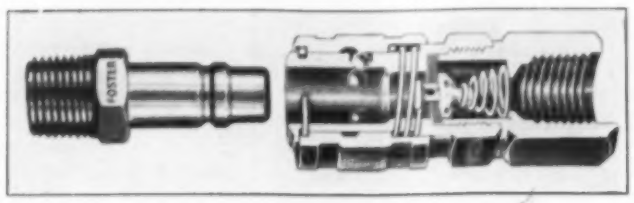
Largest assortment in the Industry . . . Highest quality of workmanship and materials maintained. Save time, labor, tool and design costs with MORTON.

MORTON MACHINE WORKS
2421 WOLCOTT ST. • DETROIT 20, MICH.

If you write maker identify as **IEN - 7649**

HOSE FITTING . . Quick coupler encloses shutoff valve, for oil, air

Source: FOSTER MFG. CO.
2848-52 Gravois, Dept. 3, St. Louis 18, Mo.



Ask for Foster Chrome Sleeve Catalog

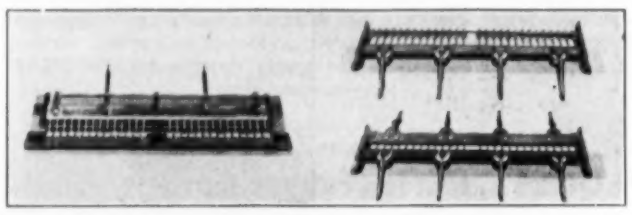
The company announces availability of three size ranges in its line of quick hose couplers for use on lines leading to pneumatic and hydraulic tools. Smallest units rate 30 cfm. of air or 6 gpm. of oil at 100 pounds. Largest rates 116 cfm. of air or 17 gpm. of oil at the same pressure. Pipe sizes are ¼ to ⅝ in. in the smallest and ⅜ to ¾ in. in the largest.

The shut-off valve is enclosed in the socket section. It is spring backed to hold it in normally closed position. It is opened by end pressure when the plug is inserted. The plug is secured by balls inside a sliding sleeve. It is drawn back against spring pressure to register the balls with a recess when the plug is to be withdrawn. Each series is available in a range of connection designs. Plugs and sockets in a given series are interchangeable.

If you write maker identify as **IEN - 7650**

POLISHING . . Work holders for use on company's roll type machine

Source: CLAIR MFG. CO.
1004 S. Union St., Olean, N. Y.



To minimize manual handling

Illustrated are three typical designs for work set up and holding in connection with polishing products such as knives, forks, spoons on the company's roll type polishing machine. To the left is a layout jig, or preloader, in which the work is placed initially to provide for accurate and rapid loading of the rack shown to the upper right. Below this rack is a positioning jig with which the work held in one position can be gripped for transfer to another rack that will hold it in a second position without having to rehandle the individual work pieces. This accessory equipment is available to handle specified work pieces.

Identify as **IEN - 7651**

Ticks-Off is a new liquid insect repellent for use by outdoor workers. It kills ticks, chiggers, flies, fleas, ants, gnats. Packaging is in a pressure spray bomb. Application on skin and clothing protects for 6 to 10 hours. Mine Safety Appliances Company supplies the bombs and instructions.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 7652**

AMERICAN AIRLINES uses the MULTISTAMP Stencil Duplicator for

LOT LABELLING AIR FREIGHT

Fast, accurate lot labelling for shipping . . storing. Print direct . . 1000 or more clear, sharp copies without re-inking. Prints practically anywhere . . postcards, tags, labels, boxes, cartons, packages, menus, forms, letters . . paper, cloth, wood. Just type, write, trace or draw on inexpensive stencil . . snap it on duplicator . . and print—like using a rubberstamp. New pre-die-cut "FORM-CUT" stencil prints shipping form and identification data in one operation.

THE ORIGINAL HAND STAMP STENCIL DUPLICATOR

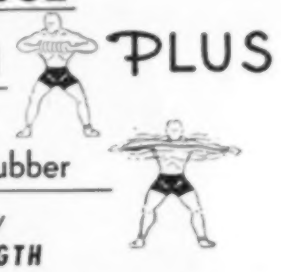
Portable . . non-mechanical . . of non-corrosive metal . . replaceable ink pads. 8 complete outfits: $9.50 to $99.50, including supplies (f.o.b. factory). Write for literature or see your office or shipping room supply dealer.

OVER 30 YEARS — MULTISTAMP STENCIL DUPLICATOR — MANUFACTURED ONLY BY THE MULTISTAMP CO. NORFOLK, VIRGINIA

If you write maker identify as **IEN - 7653**

Republic WIRETEX **AIR HOSE**

Strength of Steel PLUS Flexibility of Rubber



. . . and there's a NEW **ECONOMY LENGTH**

WIRETEX, combining the strength of steel with the flexibility of rubber, brings you economical hose performance. Republic WIRETEX Air Hose easily handles air pressures up to 2,000 psi — and is ideally suited to work on less rigorous jobs, too, where extra service life and trouble-free performance is an asset.

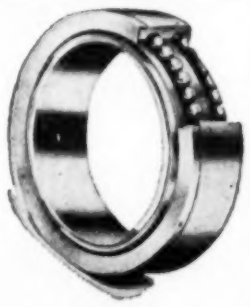
Republic WIRETEX is NEW — a truly modern conductor internally reinforced with high tensile wire. It's easy to handle, unbelievably tough and long lasting. What's more, Republic WIRETEX is built in 60-foot **Economy Lengths.** You save money when you buy Republic WIRETEX; time and money when you use it! Get the facts today! Republic WIRETEX Hose is available in all standard (⅜" to 2" inclusive) sizes.

REPUBLIC RUBBER DIVISION
LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO
INDUSTRIAL RUBBER PRODUCTS

If you write maker identify as **IEN - 7654**

Never Before ! !

A Ball Bearing Bushing that:



. . . provides such capacity in such limited space.

. . . improves performance at such a low cost.

. . . extends equipment service life with such savings in weight, space and cost of component parts.

. . . makes so many "impossible" anti-friction bearing applications *possible,* practical and economical.

. . . makes lubrication so much less a problem.

These and other advantages of SPLIT BALL BEARING BUSHINGS are offered for the first time in history. Investigate!

Our Engineering Department is ready always to give you the benefit of its advice and experience.

SPLIT BALLBEARING CORP.
LEBANON, NEW HAMPSHIRE

If you write maker identify as **IEN - 7655**

Spray THIS aluminum *without spatter!*

Background surfaces are not spattered or marred when you spray with

ROYLAC ALUMINUM

Due to special vehicle and solvents, this protective coating dries in motion to a cottony, non-adherent powder at about four feet from the spray gun.

But the surface you WANT to protect receives a superior, corrosion-resistant and tightly bonded film, with a bright aluminum finish, particularly effective exposed to acid-type fumes, salt or moist air.

Roylac Aluminum is plasticized to provide a film of good flexibility and bonding tack, effective for sealing porous surfaces. With its non-reactive vehicle, Roylac is excellent on galvanizing, steel and other basic metals. It is accepted as an economical, fast-drying product finish coat. It covers up to 800 square feet per gallon and dries to a tack-free film in 12 minutes. Also easily applied by brush.

Photo made the day after spray-coating with Roylac Aluminum. Note absence of spray on grass.

Free test sample, specifications and prices on letterhead request.

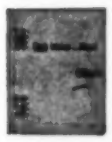
ROYSTON LABORATORIES, INC.
P. O. Box 112, Blawnox, Pa.
ROYLAC

If you write maker identify as IEN - 7656

HARTWELL Flush Latches

300 available for over COMBINATIONS of door and frame thicknesses

Hartwell Trigger-action Flush Latches are produced in over 300 stock combinations of bolt and trigger offsets. We can supply a latch for any door of any thickness to be latched in a frame of any thickness to your specifications. No altering of panels and frames is necessary when Hartwell Flush Latches are installed. Offsets of bolt and trigger are stamped on each part for rapid and accurate selection of the correct latch for each installation. All Hartwell Flush Latches and Hinges are the result of over a decade of continuous specialized design and manufacture.

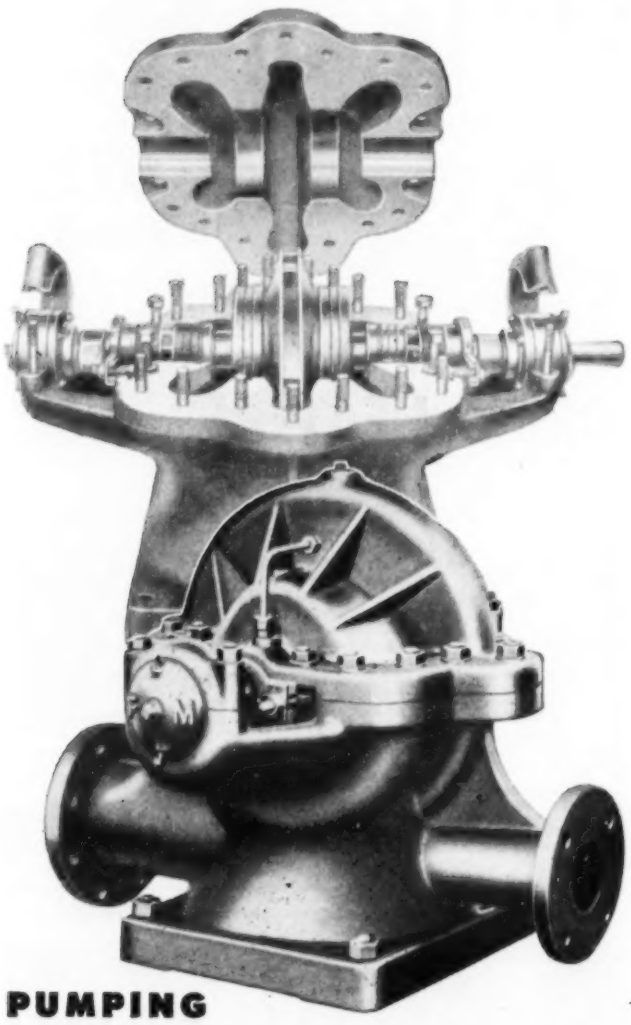


Write for new Flush Latch and Hinge Catalog.

HARTWELL COMPANY

9035 VENICE BOULEVARD, LOS ANGELES 34, CALIFORNIA

If you write maker identify as IEN - 7657



PUMPING "down time!" GOT YOU DOWN?

. . . then you want a Fairbanks-Morse Split-Case Centrifugal Pump—parts are *easily* accessible for the minimum maintenance necessary. Inspection is simple . . . lift the split casing and the entire rotating element can be removed without disturbing driver or pipe connections . . . even the bearings can be removed without the use of a bearing puller!

See your Fairbanks-Morse Branch Pump Engineer about his complete pump line . . . or write Fairbanks, Morse & Co., Chicago 5, Illinois.

FAIRBANKS-MORSE

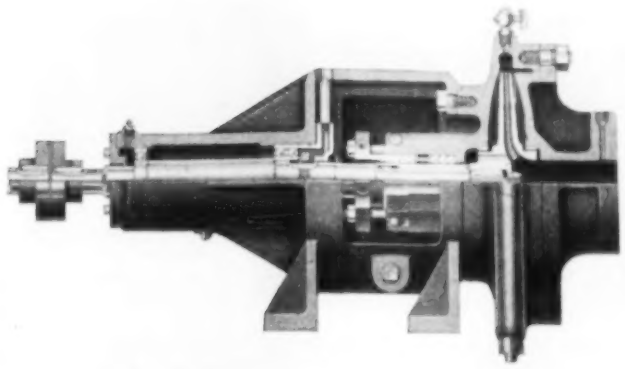
a name worth remembering when you want the best

PUMPS • SCALES • DIESEL LOCOMOTIVES AND ENGINES • ELECTRICAL MACHINERY • RAIL CARS • HOME WATER SERVICE EQUIPMENT • FARM MACHINERY • MAGNETOS

If you write maker identify as IEN - 7659

PUMP . . Single stage centrifugal rates to 1,000 gpm., heads to 400 feet

Source: WARREN STEAM PUMP CO.
50 Warren St., Warren, Mass.



Data and dimensions in Bulletin WQ-214

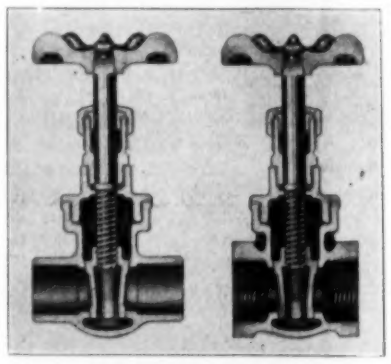
New sizes have been added to the company's Type-DF line of single stage end-suction centrifugal pumps. The overall line now includes suction sizes from 1½ to 6 inches. The pump is suited for handling acids, brines, caustics, condensate, organic liquids, hydrocarbons, gasoline, oils, water. It employs a cast iron casing and main housing. Its steel shaft is mounted on a single row outboard ball bearing and a double row inboard bearing, the latter to take thrust in both directions as well as radial load.

The shaft is fitted with a bronze liner keyed in place where it passes through the stuffing box to carry the bronze impeller. This unit is modified Francis type. Its shoulders ride inside renewable wearing rings made of bronze and fitted in the casing. The coupling at the outboard end is available to specification. A base plate also can be specified to mount the pump and its driving motor.

If you write maker identify as IEN - 7660

VALVE . . Wedge disc gate design for 125 lb. steam, ⅜ to 2 inches

Source: NORTHERN INDIANA BRASS CO.
933-37 Plum St., Elkhart, Ind.



No restriction when open

Number 56, with threaded connections, and 756, with standard solder connections, are new additions to the NIBCO line of valves. Both employ non-rising stems made of Nibcoloy bronze, solid wedge type discs. Guides are cast in the body to match the grooves machined in the disc.

The body is made of bronze. The handwheel is aluminum. The packing is graphite impregnated asbestos. Seven sizes range from ⅜ to 2 inches. Face-to-face dimension is about 1¾ to 3¼ in. for the threaded design. It is about 1⅝ to 4⅜ in. for the solder design. List price in both cases ranges from $4.30 to $17.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

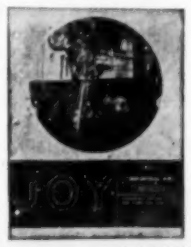
If you write maker identify as IEN - 7661

JOY WG-9 "Industrial-Air" COMPRESSOR

Saves space—gives you top efficiency—built for heavy duty

- ★ Full force-feed lubrication of all working parts
- ★ Replaceable cylinder liners and crosshead guides
- ★ Small floor area and simple foundation requirements
- ★ Anti-friction main bearings

15 Sizes—172 to 881 CFM
20 to 150 psi



FREE BULLETIN

For complete details, write for new Bulletin A-43, or...

Consult a Joy Engineer

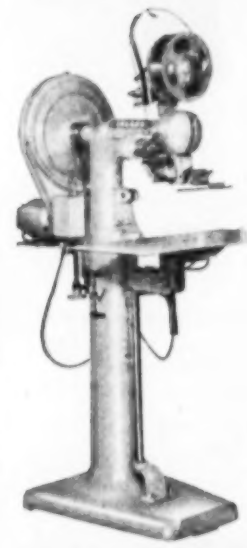
W&O 13088

JOY MANUFACTURING CO.
General Offices: Henry W. Oliver Building
Pittsburgh 22, Pa.
IN CANADA: JOY MANUFACTURING CO. (CANADA) LIMITED
GALT, ONTARIO

If you write maker identify as IEN - 7662

There's an Inland SPEED-STITCHER for every stitching job

No other stitcher can offer all these features



- **Speed Regulator** — changes speed in a jiffy for greater operator efficiency and varying types of work.
- **Automatic Brake** — no drag, no severe starting jolt, greatly improved stitching.
- **Central Solenoid and Connecting Box**
- **Front location of "ON-OFF" switch.**

CHOICE OF MODELS

Seam Stitcher
Available with or without adjustable table
Straight Arm
Bottom Stitcher
Sword Arm, with or without adjustable table
Combination Straight Arm and Bottom Stitcher

Representatives in principal cities
Write or phone for complete data

INLAND WIRE PRODUCTS CO.
3963 South Lowe Avenue Chicago 9, Illinois
Phone: YArds 7-3113

If you write maker identify as IEN - 7663

Ready! AIR CYLINDERS AND VALVES

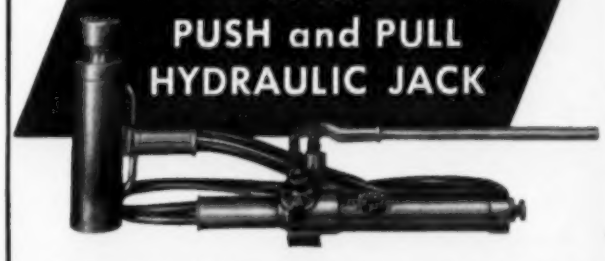
With a valve to suit the job air cylinders can be made to work wonders. Mead Air Valves, Single and Double Acting Air Cylinders, will help you cut costs, speed up work. Write for complete new Catalog of famous Mead air-operated devices!

MEAD SPECIALTIES COMPANY
4114 N. KNOX AVE., DEPT. E-73-A • CHICAGO 41, ILL.

If you write maker identify as IEN - 7664

SPEED UP ★ PRODUCTION ★ MATERIALS HANDLING ★ MAINTENANCE

WITH A **HEIN-WERNER** 20 TON PUSH and PULL HYDRAULIC JACK



You'll be amazed at the time and manpower you can save on tough lifting, moving, pressing, ejecting, clamping, or straightening jobs with a Hein-Werner J-20 Hydraulic Jack.

The J-20 can be carried anywhere in the plant . . . set up in seconds . . . easily operated by one man. It will push up to 20 tons or pull 13½ tons. You merely turn a valve from right to left to change the action. Remote control pump works at any angle, in any position, without becoming airbound. Safety valves prevent overloading. Varied attachments are available to adapt the jack perfectly to any type job. Other Hein-Werner models of 4 and 10 ton capacities are also available. See your industrial supply distributor or write us.

HEIN-WERNER CORPORATION
Waukesha, Wisc.

Hein-Werner HYDRAULIC JACKS

If you write maker identify as IEN - 7665

DO REJECTS SLOW UP YOUR PRODUCTION LINE?

Oakite paint strippers may help you break the bottleneck

When painting rejects slow production, you may need one of the stripping methods described in "How to STRIP PAINT", a free booklet which answers many questions about effective stripping procedures. For example:

¶ What's the cheapest way to strip metal parts in large volume? *See page 9.*

¶ What strippers are best for removing oil-base paints? . . . Synthetic enamels, alkali-resistant plastics or resin-base paints?... Japans, wrinkle finishes, nitrocellulose lacquers, alkyds, phenolics and ureas? *See page 12.*

FREE For a copy of "How to STRIP PAINT" write to Oakite Products, Inc., 16A Rector St., New York 6, N. Y.

SPECIALIZED INDUSTRIAL CLEANING
OAKITE
MATERIALS • METHODS • SERVICE

Technical Service Representatives in Principal Cities of U. S. and Canada

If you write maker identify as IEN - 7666

Engineered
FOR TUNGSTEN CARBIDE

MEYCO carbide tipped circular saws ARE DIFFERENT, because the blade and teeth have been engineered for tungsten carbide. It is this know-how of building a carbide tipped saw from the ground up, that has made MEYCO saws popular and accepted as the standard of the industry. MEYCO saws will run longer between grinds, give you more regrinds, produce smoother cuts and save you many times their small extra cost over ordinary circular saws. Write for fully descriptive catalog and price list No. 18.

W. F. MEYERS CO., INC., BEDFORD, INDIANA

If you write maker identify as IEN - 7667

The "Signature" is the finishing touch on your product!

Ever stop to think that your name plate is really the "signature" on your product? Its appearance should reflect your pride; its durability should match the quality of your product. Let us help you create such a "signature." Our skilled craftsmen, long experience and modern equipment insure finest results. Send a rough sketch or blue print for design suggestion and quotation.

Write now for "Etched or Lithographed Metal Products", with full color examples of name and instruction plates.

CHICAGO THRIFT-ETCHING CORPORATION
1555 N. SHEFFIELD AVE., CHICAGO 22, ILL., DEPT. F
SUBSIDIARY OF DODGE MANUFACTURING CORPORATION, MISHAWAKA, INDIANA

If you write maker identify as IEN - 7668

TESTING . . Temperature cabinet cycles minus 80 to plus 185 deg. F.

Source: WEBBER MFG. CO.
2738-42 Madison, Dept. 226, Indianapolis 3, Ind.

For mechanisms, equipment

Rapid pulldown features the operation of this new bench type test chamber. A temperature of minus 80 deg. F. can be obtained from room temperature in 30 min. or less. Chamber dimensions are 12 by 12 by 12 inches. Overall dimensions are 50 by 20 by 26 inches. The refrigerant compressor is air cooled.

Heat is applied by the use of reverse cycle refrigeration. A blower is provided for even distribution of temperature. The stainless steel housing is equipped with a latch-type removable door. This door is equipped with a mounting board on which component parts can be assembled for testing and through which holes can be drilled to provide for electric circuits.

Optional equipment includes electrical terminals, shelves, automatic temperature cycling and recording instruments. The same unit also is available for a temperature range between minus 100 and plus 250 deg. F.

If you write maker identify as IEN - 7669

DOORS . . Electronic control to actuate power operated door

Source: AUTOMATIC ELECTRONIC ENGINEERING CO.
2209 E. North Ave., Milwaukee 2, Wis.

Electronic Door Keeper

Magnetic discs, weatherproof design, are buried in the trafficway to serve as the actuating means for the company's new electronic control for power operated doors. When a vehicle rides over the disc, on either side of the door, the control opens or closes a relay to start the power drive so the door will be opened or closed. A door will remain open in the event of electrical or mechanical failure. A switch can be turned to provide for manual operation. Power operation is on 110-volt ac. in standard arrangement.

Identify as IEN - 7670

Browning Manufacturing Company has assembled a stock assortment of 24 fixed bore sprockets and 27 bushed units to make a total of 264 possible chain size, tooth and bore combinations. Included are three chain sizes, No. 40, 50 and 60, with a supply of connecting links and a chain breaking tool. The assortment was intended initially for dealer sales display.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7671

He's Wiping His Glasses With YOUR Dollars
$ $ $ $ $

Sweat begins to trickle on to his glasses. He stops . . . takes off his glasses . . . pulls out a handkerchief . . . wipes his glasses . . . replaces the handkerchief . . . puts his glasses back on . . . and finally resumes his job.

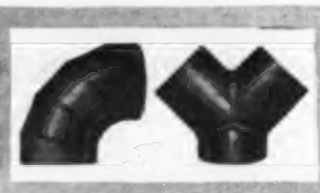
That little episode costs you money. When it's repeated hour after hour, day after day, week after week, month after month by dozens of workers, the dollar loss to you is a fantastic sum.

Stop this wiping of glasses with your dollar bills. Use StaSafe Koolpads — the lightweight, low cost, cellulose headband that soaks up sweat and keeps those dollars in your pocket.

$4.00 For a Package of 25

STANDARD SAFETY EQUIPMENT COMPANY
232 W. Ontario St. Chicago 10, Ill.

If you write maker identify as IEN - 7672



For Standard or Special

FABRICATED FITTINGS

You can depend on

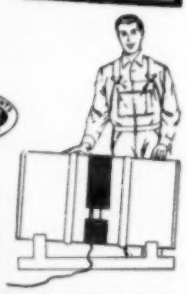
NAYLOR Here is your source for standard fittings for lightweight pipe, special fabrications to meet your specifications on simple or complex layouts, or fabrications of standard weight pipe. Specials range from 3" to 44" in diameter and wall thickness to ¼". All types of materials. Write for Bulletin No. 525.

NAYLOR PIPE COMPANY
1235 E. 92nd Street, Chicago 19, Illinois
New York Office: 350 Madison Ave., New York 17, N.Y.

If you write maker identify as IEN - 7673

SPEED UP
SLOW-FLOW MATERIALS

TARS
PLASTICIZERS
WAXES
MOLASSES
GLUES
RESINS
GREASES
GUMS . . ETC.



ACRAWATT ELECTRIC
DRUM HEATERS
FIT ALL STANDARD 22¼" DRUMS

- Proven Acrawatt THINSTRIP Construction.
- 3 Heats: 3000 Watts 230 Volts.
- Fast Heat Transfer.
- Aluminized Steel Encased.
- Enclosed Wiring Terminals.
- Low Radiant Loss.
- Fully Insulated.
- Easy to Install and Remove.

Kill time-consuming, costly slow-flow of viscous materials. Slip one or more Acrawatt Drum Heaters on your drums. Make cloggy, sluggish contents get a move on. Go on and off in a jiffy. Safe and simple to apply and operate. Use singly or in multiple. Save with Acrawatt reliability, long life ruggedness and efficiency. Order today.

ORDER NOW
EA. $19.50 F.O.B. CHICAGO
Spot Shipment
Shipping Wgt. 10 Lbs.

FOR BETTER ELECTRIC HEATERS AT BETTER PRICES, LET US QUOTE

ACRA INDUSTRIAL ELECTRIC CO.
9905 PACIFIC AVENUE • FRANKLIN PARK, ILLINOIS

If you write maker identify as IEN - 7674

UNITED CARAVAN AXLES

feature
AUTOMOTIVE STEERING

Only CARAVAN axles assure dependable roadability on both highway and rough ground. These job-engineered axles are available in 2-wheel units and 4-wheel assemblies featuring automotive steering and controlled camber, tow-in and caster for positive trail at high speeds.

Stability for the heaviest loads is provided by massive center steering arm, extra-heavy center arm stop blocks and heavy-duty steering knuckle. Wide inside wheel turning angle assures maximum maneuverability and eliminates jack-knifing.

Write today for new Bulletin No. 53 for further information.
1124-UM

THE UNITED MANUFACTURING CO.
711 W. INTERSTATE STREET • BEDFORD, OHIO

If you write maker identify as IEN - 7675

10 advantages of ELECTROLIFT WORM DRIVE HOIST

- automatic electric brake
- hoist drum fully grooved
- motor hoist fully enclosed
- automatic lubrication
- hoist gearing fully enclosed
- worm shaft alloy steel
- worm load brake holds load
- drum guards protect cable
- no overhung gears
- optional pushbutton control

ELECTROLIFT

ElectroLift, Inc., 30 Church St., New York 7, N. Y.

If you write maker identify as IEN - 7676

STANDARDIZE On this "Packing Package"

. . . for Trouble-free Hydraulic Service

Now, the United States Gasket Company offers you one source of supply and undivided responsibility in a complete line of synthetic rubber "O" Rings and companion Teflon* Back-up Rings for all military and commercial requirements.

- **CHEMISEAL "O" RINGS** of resilient, homogeneous synthetic rubber are absolutely non-porous and withstand a wide temperature range. They are available in both commercial and AN compounds.
- **CHEM-O-GREEN BACK-UP RINGS** are made of chemically inert duPont Teflon, colored green for identification purposes. They are made in three types, solid rings, split rings and the popular improved spiral type which adjusts itself to the groove and, on compression, becomes in effect, a solid ring of the required diameter and thickness.

The advantages of Chem-o-green (Teflon) Back-up rings are many.

Chemical inspections may be eliminated as Teflon is non-corrosive. Zero swelling in all hydrocarbons or newer synthetic hydraulic fluids or solvents. Service temperature range from minus 110° F to 500° F. Unsurpassed anti-friction properties. Waterproof, non-flammable. Long wearing. Requires no water-soak for installation.

Write for Bulletin OB-1152.

*duPont Trademark

UNITED STATES GASKET COMPANY — FLUOROCARBON PRODUCTS DIVISION, CAMDEN 1, NEW JERSEY. Representatives in Principal Cities Throughout the World

If you write maker identify as IEN - 7678

PUMP . . And electric melter deliver semi-liquids from containers

Source: ANETSBERGER BROTHERS INC.
182 N. Anets Drive, Northbrook, Ill.

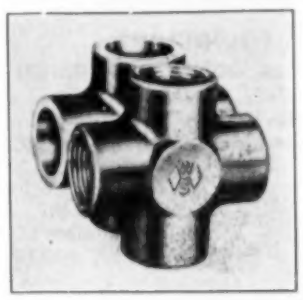
Leaves container clean

Solidified oils, greases that can be liquefied by heat, are melted in their original containers and pumped out by this new combination unit known as the Barrel Pump. Assembly includes a stainless steel cylindrical housing that encloses the electric immersion heating element and the motor driven pump. Dimensions are 21¼ by about 18 inches. Weight is 50 pounds. Two pump capacities are 15 and 30 gpm. The pump motor operates on 110-volt ac. and the heater on 200 volts.

If you write maker identify as IEN - 7679

PIPE FITTING . . Forged stainless in threaded and weld socket designs

Source: WATSON-STILLMAN CO.
109 Aldene Road, Roselle, N. J.



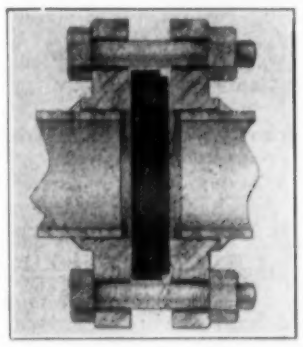
Carried in stock

Types 304 and 316 stainless steel are employed in construction of a new line of Featherlite forged stainless steel fittings in sizes from ⅛ to 1 inch. Elbows, tees, crosses, couplings, caps, plugs and bushings are included. Each fitting is machined from a solid steel forging. Features are toughness, strength and resistance to thermal and mechanical shock.

If you write maker identify as IEN - 7680

SEALING . . Metal gasket in two parts, plain or with O-ring

Source: VICKERS INC.
2158-62 E. Imperial Highway, El Segundo, Calif.



For any fluid

Vic-O-Seal is a new self-aligning metal gasket for pipe lines ranging from 2 to 6 inches. The gasket applies between the pipe flanges, inside the bolt circle. It permits misalignment between the flange faces to a maximum of 6 degrees. It is available with an O-ring as shown in the illustration or in a metal-to-metal fit. It has been tested for pressures to 7,000 lb. without leaking.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7681

TWICE the Power at the SAME COST!

G-R announces an entirely new VARIAC continuously-adjustable transformer with a power rating of 345 volt-amperes. This VARIAC is designed to replace the popular Type 200-B, and has TWICE the power rating of the 200-B. The price is the same: $12.50.

The Type V-2 is equipped with the new and exclusive DURATRAK brush-contact surface which provides improved performance, even longer life, and practically no maintenance.

For complete information write for the NEW Variac Bulletin!

NEW Type V-2 Variac
Price $12.50

GENERAL RADIO Company 275 Massachusetts Ave. Cambridge 39, Mass.
90 West St. NEW YORK 6 · 920 South Michigan Ave. CHICAGO 5
1000 North Seward St. LOS ANGELES 38

If you write maker identify as IEN - 7682

A PAID NEWS ADVERTISEMENT BY QUINCY COMPRESSOR CO.

Air Compressors: HOW TO SELECT THE CORRECT SIZE AND TYPE TO MEET YOUR SPECIFIC REQUIREMENTS

Available without charge from:

Quincy Compressor Co.
DEPT. H-31, QUINCY, ILLINOIS

This up-to-date 12 page book provides detail charts, formulas and factual data essential to accurate selection of Air Compressors for specific jobs. When you know your actual compressed air requirements and estimated future needs the job is an easy one. This book also contains valuable installation and maintenance instructions. It has been made available by the Quincy Compressor Co., manufacturers of a complete line of air and water cooled compressors ranging in size from 1 to 90 c.f.m. Write Dept. H-753, Quincy, Illinois.

If you write maker identify as IEN - 7683

Pick of the Pack

Finish products faster and you'll realize immediate savings in operating costs. Light weight portable and easy-to-handle CP Hicycle grinders, sanders, buffers and polishers operate under constant speed — there's no sag under full load. Their rugged design assures maximum low-cost power . . . solid rotor affords long life, low maintenance. No armature to burn out . . . no commutator or brushes to replace. Write for details. *Chicago Pneumatic Tool Company, 8 East 44th Street, New York 17, N.Y.*

Chicago Pneumatic

PNEUMATIC TOOLS • AIR COMPRESSORS • ELECTRIC TOOLS • DIESEL ENGINES
ROCK DRILLS • HYDRAULIC TOOLS • VACUUM PUMPS • AVIATION ACCESSORIES

If you write maker identify as IEN - 7684

Eliminate Pipe Corrosion Problems with Easy-to-Install

CLOW (THREADED*) CAST IRON PIPE

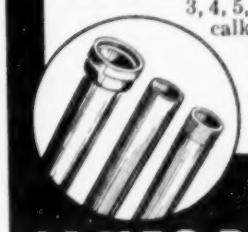
CLOW CAST IRON PIPE CAN BE

on-the-job with ordinary tools of the piping trade

WHETHER YOU ARE BUILDING, EXPANDING or replacing, consider the experience of leading architects and plumbing contractors...CLOW *threaded** CAST IRON PIPE is now their choice for all 3" and larger downspouts, waste and vent lines. They know that its corrosion-resisting qualities and long-life durability assure permanent, trouble-free service.

CLOW *threaded** cast iron pipe can be cut and threaded with ordinary tools of the trade...Available with plain or threaded ends: 18' lengths, sizes 3, 4, 5, 6, 8 and 10"...*also* with integral calking hub (other end plain) in 18' lengths and in sizes 4, 6 and 8".

Write for Form 4-26-50 to: JAMES B. CLOW & SONS, 201-299 North Talman Avenue, Chicago 80, Illinois.



*Has the same outside diameter as steel or C.W.I. pipe

JAMES B. CLOW & SONS
Wholesale Distributors of Pipe, Valves and Fittings for Industrial Use

If you write maker identify as IEN-7685

New LIQUID METERING DATA

Neptune Liquid Meters control quality and save ingredients

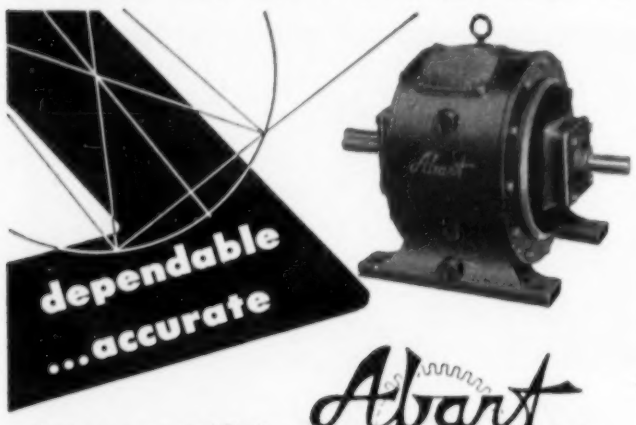
New meter data charts show how to select the right Neptune liquid meters for closer formula, inventory and cost control. Covers more than 100 industrial liquids, including cold, warm and hot water, oils, syrups, brines, soap solutions, and many chemicals. Also discusses automatic batching.

Send for Catalog 566-KI Today!

NEPTUNE METER COMPANY
50 West 50th St., New York 20, N. Y.

Branch Offices
ATLANTA • BOSTON • CHICAGO • DALLAS
DENVER • NO. KANSAS CITY, MO.
LOS ANGELES • LOUISVILLE • PHILADELPHIA
PORTLAND, ORE. • SAN FRANCISCO

If you write maker identify as IEN-7686



Abart SPEED REDUCERS

Even on your most difficult applications, you can depend on Abart Speed Reducers to deliver efficient, economical power transmission and accurate reduction ratios. These compact units are precision built for exacting performance and long, trouble-free service.

Choose from over 75 sizes and types. Worm, spur, and combination gear. Ratios up to 10,000 to 1. Horsepower ratings from 1/50 to 168. All Abart Reducers are oil tight and dust free.

Send for illustrated pocket size Catalog containing full engineering data on Abart Speed Reducers and Gearmotors.

Abart GEAR & MACHINE CO.
4823 WEST 16th STREET • CHICAGO 50, ILLINOIS
Mfrs. of Gears, Speed Reducers and Gearmotors

If you write maker identify as IEN-7687

SOLVE EXTREME PRESSURE LUBRICATION PROBLEMS

The new miracle molybdenum disulfide lubricant.

Anti-Seize is a stable non-melting, multi-purpose molybdenum disulfide lubricant having a phenomenal capacity to prevent seizing and galling at bearing pressures well over 100,000 pounds per square inch. Anti-Seize will lubricate at temperatures below sub-zero and up to 750 degrees F.

Write today **DEPT. IND** for new literature and get the complete story.

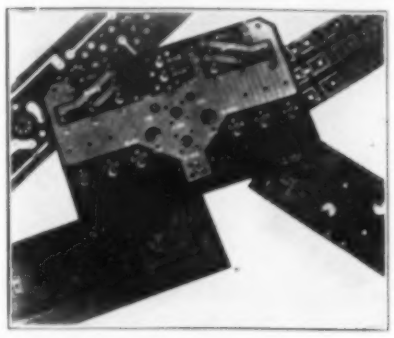
2321

MANUFACTURERS OF SPECIAL LUBRICANTS
BEL-RAY CO., INC.
MADISON, NEW JERSEY

If you write maker identify as IEN-7688

ELECTRIC CIRCUITS . . Plastic sheets, metal clad for printed circuit makers

Source: SYNTHANE CORP.
50 River Road, Oaks, Pa.



Typical applications

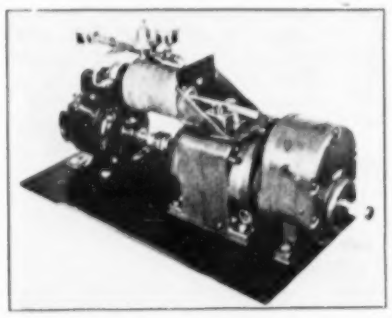
Plastic sheet, Synthane Grade XXXP, is available in 36 by 36-in. sheets, with copper or aluminum cladding measuring 0.0008 to 0.0094 in. in thickness, for use by manufacturers of printed electric circuits. Accurate circuit reproduction can be made by commercial printing processes such as silk screening or photo etching. The company also is prepared to supply the unclad electrical grade plastic for use when patterns are to be reproduced by printing, plating, stamping or other printed circuit processes.

The metal surface is guaranteed free of wrinkles, pits, scratches or pin holes. The bonding adhesive is resistant to attack by moisture and possesses good electrical properties that match the base plastic material.

If you write maker identify as IEN-7689

DRIVE . . Variable speed equipment, air operated, process actuated design

Source: GRAHAM TRANSMISSIONS INC.
553 Graham Ave., Menomonee Falls, Wis.



For specified use

New combination of the Graham variable speed motor driven transmission and a pneumatic Conoflow operator, previously described IEN-4472-51, provides a variable drive that will hold in close step with changes in process flow rate, pressure, pH, temperature, humidity, liquid level. The Conoflow unit moves a rack that engages a pinion on the variable speed transmission to alter position of the speed determining ring inside the housing.

Position assumed by the pneumatic piston is in proportion to transmitted air pressure from the sensing element located at the process control point. Air pressure ranges between 3 and 15 lb. in the control line to operate the cylinder pilot. It, in turn, controls flow of 100-lb. air pressure to main cylinder.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

Find what you want?
Product ideas in the index—page 1

If you write maker identify as IEN-7690

VULCAN

In addition to Electric Heating Units and Electric Soldering Tools Vulcan makes these

ELECTRIC HEATING DEVICES

VULCAN ELECTRIC CO
DANVERS VULCAN MASS

If you write maker identify as IEN-7691

Set up Fume Ventilation yourself with SPIRATUBE®

SPIRATUBE's design qualities make it ideal for portable and semi-permanent ventilation service, fume removal, all dust collection systems. It has the greatest flexibility and retractability. Sections of SPIRATUBE link together or detach in 10 seconds! No tools needed, no parts to get lost. Nothing could be simpler. And most important, YOU CAN INSTALL SPIRATUBE YOURSELF. Whatever your ducting requirements, FLEXIBLE's line of tubing will meet them better, cost less.

WRITE TODAY
for this Illustrated Booklet

Flexible Tubing CORPORATION

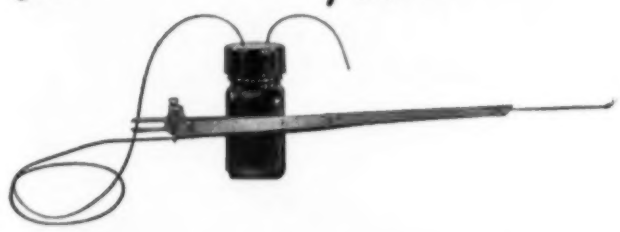
For all ducting systems:
FLEXFLYTE®
SPIRATUBE®
AYRTUBE®

Guilford, Connecticut Pasadena 1, California

If you write maker identify as IEN-7692

ARCCO *NEVER-DRY* PEN

Writes for Months



REPLACES OTHER MAKES • USES REGULAR INKS

Regardless of pulsations or other causes of ink failures this new Never-Dry Pen will make clean and complete records. Ink supply lasts for several months without refilling reservoir. Capillary tube from ink bottle placed in instrument case feeds pen with continuous flow. Closed system sealed from atmosphere prevents clogging and dirt accumulation.

Weight of pen is constant at all times thus insuring extreme accuracy. No slopping or dripping. Stainless steel construction—no corrosion. When ordering, specify make and type of recording instrument.

AMERICAN RECORDING CHART CO.
3113 E. 11th St. • Los Angeles 23, Calif.

$6.00 each Net
Send for quantity prices

If you write maker identify as IEN-7693

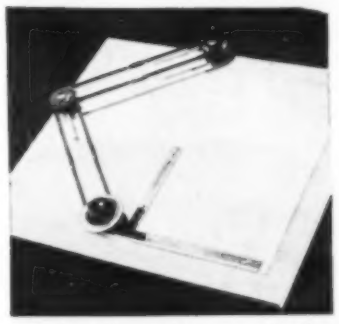
Ross Air Systems

AIR HEATERS	Direct, Indirect and Combination Types. Oil, Gas and Steam Fired
INDUSTRIAL DRYERS	Batch and Continuous Types for Web or Particle Drying Using Any Source of Heat
INDUSTRIAL OVENS	Batch and Conveyor Types for Temperatures Up To 1000 deg. F. for Baking, Curing, Heat Treating, Aging
HEATING and VENTILATING, AIR CONDITIONING	Industrial Hoods, Air Supply and Exhaust, Duct Work and Control Apparatus
WASTE HEAT RECOVERY	Heat Interchangers and Economizers for Waste Vapor and Gases

The most modern and complete facilities for laboratory testing and manufacturing. Write for literature.

J. O. ROSS ENGINEERING CORPORATION
444 MADISON AVENUE NEW YORK 22, N. Y.
CHICAGO • DETROIT • BOSTON • LOS ANGELES • SEATTLE • MONTREAL

If you write maker identify as IEN-7694



MAKE *EVERY BOARD* MORE *PRODUCTIVE*

Equip throughout with the

UNIVERSAL DRAFTING MACHINE

famous for its 360° Full-Vision Protractor

This precise instrument, without which no drawing board is complete, combines into one accurate unit most of the loose tools of the drafting art — T-square, protractor, triangles, scales and parallel rules. It speeds all classes of work, improves its quality, and lessens operator fatigue.

This improved drafting machine in your plant will speed ideas to the blueprint stage — will cut engineering costs — will improve drafting room efficiency. Write for descriptive bulletin outlining the many exclusive features that have made Universal Boardmaster the favorite drafting machine of American industry.

UNIVERSAL DRAFTING MACHINE CORPORATION
7960 Lorain Avenue • Cleveland 2, Ohio

UNIVERSAL
DRAFTING MACHINE — DURALINE SCALES

If you write maker identify as IEN-7695

IT'S HERE . . . *positive power transmission —without lubrication!*

Now Available in STANDARD STOCK DRIVES

During the past six years, original equipment manufacturers have found in custom-engineered "Timing" Belt drives a means of simplifying and improving their products' design and performance. Now the *same* advantages can be applied by plant engineers to various individual drives at a cost competitive with other methods of power transmission. A wide range of Gilmer *Standard* "Timing" Belts and matching pulleys are now—or soon will be—available from local distributors' stocks.

Wherever slippage or drive lubrication presents a problem, or the saving of space or weight is important, consider these unique features of the "Timing" Belt drive:

CAN'T SLIP—Positive engagement of the "Timing" Belt's teeth with axially-cut pulley grooves assures no slippage, no creep, no power loss, precision control of speed ratio.

STRONG, LIGHT, FLEXIBLE—A single layer of continuously-wound, neoprene-encased, steel cable of high tensile strength gives the "Timing" Belt highest strength-to-weight ratio, with extreme flexibility. No stretch; no take-up. Range: 1/100 to 300 hp.

NO INITIAL TENSION—Teeth, not friction, provide the grip . . . reducing bearing loads and eliminating need for outboard bearings.

NO LUBRICATION—Absence of metal-to-metal contact eliminates need for lubricants, lubricating devices and housings. High Speeds cause no lubricating problems.

ULTRA COMPACT—Very small pulleys can be used without slippage, permitting very short centers and high ratios.

SPEED RANGE—Operates without slippage at speeds of inches per day to 15,000 rpm. Mechanical efficiency is very close to 100%.

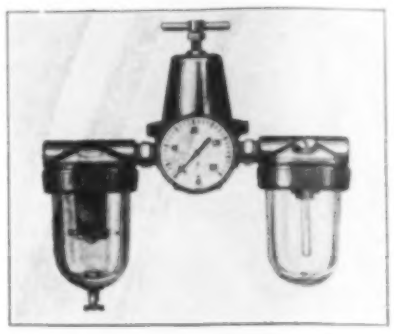
Ask your local NYB&P Distributor for a copy of the Gilmer "Timing" Belt STANDARD DRIVE MANUAL or use the request form to obtain a copy of the Manual and location of nearest stock-carrying distributor.

NYB&P NEW YORK BELTING & PACKING CO. 1 Market St., Passaic, N. J.
America's Oldest Manufacturer of Industrial Rubber Products

If you write maker identify as IEN-7697

FILTERING . . Air line unit with pressure regulator and lubricator

Source: ARROW TOOLS INC.
1902 S. Kostner Ave., Chicago 23, Ill.



Cleans, controls, oils

Centrifugal action throws out moisture and heavy solids from air entering the new Series-3100 filter shown to the left in the illustration. These materials collect in the transparent bowl for removal at intervals through a valve at the bottom. The air passes through a central porous bronze element. It retains fine sediment so only clean air issues from it.

The clean air passes through the improved Series-1400 regulator where pressure can be adjusted in a range from 5 to 125 lb., based on 250-lb. entering pressure. This assembly employs a new Nylon reinforced oil resistant diaphragm, stainless steel bushings and center shaft. Self-bleeding action prevents pressure build-up on dead end service.

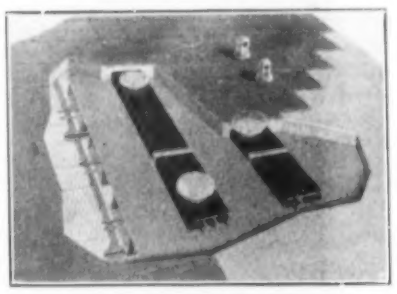
The regulated air enters the new Series-4100 lubricator in which oil, held in the transparent reservoir, is forced to pass through a porous bronze feeder wick where it is turned into a fine mist for suspension in the air stream. Amount of oil is in proportion to the movement of air leading to air operated equipment.

Five sizes have ¼ to 1-in. pipe line connections. Single units of any of the three, or any combinations of two or more, can be ordered to meet requirements.

If you write maker identify as IEN-7698

ELECTRIC DUCT . . Carries wiring and forms sub-base for concrete floor

Source: DETROIT STEEL PRODUCTS CO.
3129 Griffin St., Detroit 11, Mich.



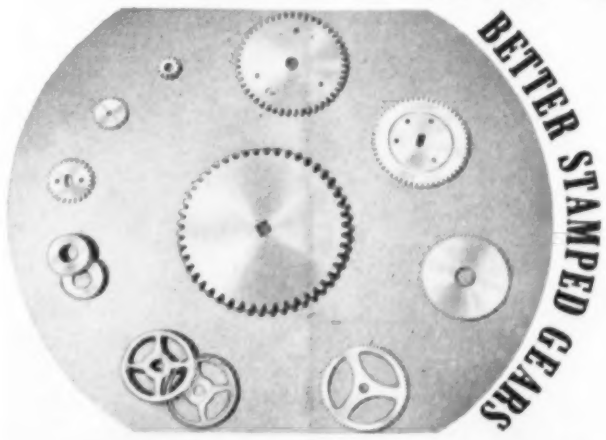
Fenestra-Nepco design

Electrifloor is a new combination of cellular light gage steel sections and a header duct with outlet fittings running at right angles. The new construction is a combination development by Detroit Steel Products and National Electric Products. It forms a complete sub-base for a floor on which the concrete can be poured, through which wiring can be conducted without interference and below which a ceiling structure can be suspended.

The construction has received approval by National Underwriters', Inc., following tests under the direction of the American Iron and Steel Institute. The units can be welded together in any combination specified by an architect. Each of the panels can be carried by two workmen. Unit strength of the sections permits working traffic on the floor before it is completely installed.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-7699



Save Up To 60% On Gear Costs

More and more manufacturers are saving a lot of money by using WINZELER *laminated* Stamped Gears. Now, for many applications, single stampings can be laminated and indexed to produce wider faces, at savings up to 60%! Greater skill and accuracy in tooling, stamping and assembling assures smoother, quieter operation. Avoid assembly headaches, delays, downtime, waste. Get the *uniform* quality only WINZELER Stamped Gears can give!

***WRITE FOR FREE** folder describing our facilities, assemblies, and various Stamped Gears. Includes data and tables. Samples, ideas, quotations, for the asking.*

WINZELER *Stamped Gears*

WINZELER MANUFACTURING & TOOL CO.
1712 WEST ARCADE PLACE, CHICAGO 12, ILLINOIS

If you write maker identify as IEN-7700

Squared Away for Maximum Wear and Efficiency

JOB-ENGINEERED ILLINOIS GLOVES

On any job where safety is needed, there's an Illinois Glove to fit! Long-wearing, dependable Illinois Gloves . . . proven wear-resistant to acids, abrasives, heat! If your special job-problem isn't covered in Illinois' complete line, write us and we'll work with you to develop a perfect glove for you!

RECONDITIONING MEANS SAVINGS! Illinois Gloves are made strong, take reconditioning easily, come through stronger, good as new! Write about our own reconditioning process!

ILLINOIS GLOVES
Write For Catalog
Sales Office: 1401 Fairfax Trafficway Bldg. D, Kansas City, Kansas

ILLINOIS GLOVE CO. CHAMPAIGN, PANA, EFFINGHAM

If you write maker identify as IEN-7701

Here's what every metal working plant has been looking for . . .

A "PUTTIN'-ON-TOOL"

Save real money—salvage thousands of dollars of undersized parts, worn tools and gages by chrome plating them right in your own plant with a Chromaster!

This compact unit deposits a smooth wear-resistant finish twice as fast as conventional methods. Its simplified operation gives you a control over deposit thickness so accurate that your finish grinding operation is usually eliminated.

Chromaster will increase the life of your cutting tools and wear parts three to ten times. Send today for complete details on the Chromaster that fits your requirements. A.3.4

Chromaster INDUSTRIAL CHROME DIVISION **WARD LEONARD ELECTRIC CO.**
33 South Street, Mount Vernon, N. Y.

If you write maker identify as IEN-7702

Do You REALLY Know The Facts About Laminated Plastic Tubing?

Do you know when to use laminated tubing? Whether to use "rolled" or "molded" tubes . . . which grade will best fit *your* application? Are you familiar with the variety of rods and tubular shapes—such as channels, angles, squares, ovals, polygons—which are available? Do you know that laminated plastic tubing is an excellent insulation, mechanically strong, tough, dense, light in weight, resists heat, water, corrosives, oils, solvents?

To get the answers to these and other questions you may have about laminated plastic tubing, use the coupon below for your copy of the SYNTHANE Tubing Catalog.

SYNTHANE

Manufacturers of laminated plastics
SHEETS
RODS • TUBES
MOLDED-LAMINATED
MOLDED-MACERATED
FABRICATED PARTS

SYNTHANE CORPORATION
5. River Road, Oaks, Pennsylvania

Gentlemen:
Please send me the SYNTHANE Tubing Catalog.

Name _____
Address _____
City _____ *Zone* ____ *State* _____

If you write maker identify as IEN - 7703

FAFNIR BALL BEARINGS

THE MOST COMPLETE LINE IN AMERICA

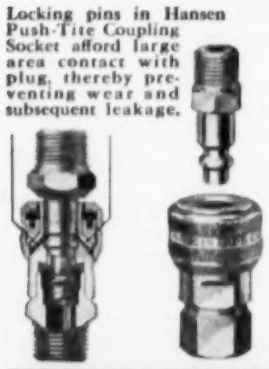
The complete line in Catalog #50. Write . . .

THE FAFNIR BEARING COMPANY
New Britain, Connecticut

If you write maker identify as IEN - 7704

HANSEN COUPLINGS
Give You 2 Big Advantages

Locking pins in Hansen Push-Tite Coupling Socket afford large area contact with plug, thereby preventing wear and subsequent leakage.



● To connect a Hansen coupling, you merely push the plug into the socket with one hand. Flow is instantaneous. To disconnect, push back sleeve on socket . . . coupling disconnects. Flow is shut off instantly and automatically.

One-way shut-off, two-way shut-off, and straight-through types. Write for Catalog

THE HANSEN MANUFACTURING COMPANY
2021 WEST 150th STREET • CLEVELAND 11, OHIO

If you write maker identify as IEN - 7705

USERS OF
CLUTCHES
OVER-RUNNING • BACKSTOP • INDEXING

GET THIS FOLDER FOR YOUR FILES!

Explains why FORMSPRAG Clutches give greatest possible torque capacity for size and weight. Shows how the sprags grip at infinite number of positions—no backlash. Also contains basic engineering data.

FORMSPRAG COMPANY
23591 Hoover Road • Van Dyke, Michigan

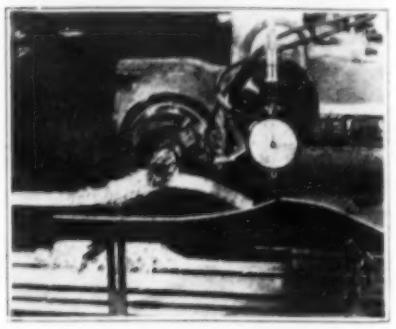
FULL COMPLEMENT
FORMSPRAG *Clutches*

Distributors in principal cities

If you write maker identify as IEN - 7706

CONTROL . . Tracer attachment for automatic contour machining

Source: AEROLAB DEVELOPMENT CO.
328-32 W. Holly St., Pasadena 3, Calif.



Sensitive to 0.00002 inch

Contour Sensor is new electronic equipment that can be set up quickly and as quickly removed from a machine tool when a job of contour machining has been completed. It employs an electronic sensing mechanism mounted in a conventional dial indicator housing and equipped with a contact head to follow a sheet metal or plastic template set up on the machine table.

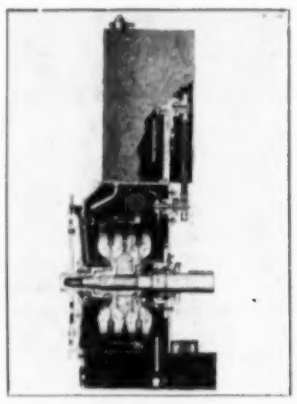
Signals from the head are received and amplified by an electronic "brain" assembled in a separate wheel mounted housing to stand beside the machine. Signals from the "brain" are employed to drive a servomotor mounted on the machine's feed screw.

The motor rotates in both directions to follow concave and convex variations in the template, aiming constantly to keep the indicator pointer on zero. Operation is on 110-volt ac.

If you write maker identify as IEN - 7707

DRIVE . . Hydraulic coupling with valve for load pickup and release

Source: TWIN DISC CLUTCH CO.
1308-12 Preston St., Rockford, Ill.



Integral radiator

Master valve, in this new design of the Model-HUD hydraulic coupling for power takeoff, is operated to actuate a differential pressure valve to "dump" the oil from the coupling into a reservoir in a second or two. The same valve is operated to return the oil when a load is to be picked up.

The coupling protects a steadily running engine against shock loading. It permits picking up a heavy load easily. It eliminates need for coordination between the engine throttle, a drum clutch and a brake as in a hoisting installation. No engine cutoff clutch is required.

Identify as IEN - 7708

A considerable portion of 50 ton of coal per week will be saved at American La France this summer thanks to installation of a new oil and gas-fired self-contained boiler by Babcock & Wilcox Company, 161 E. 42nd St., New York 12, N. Y. The small boiler rates 8,000 lb. of steam per hour and will serve the summer needs for steam so the larger coal burning equipment can be shut down.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7709

a positive approach...

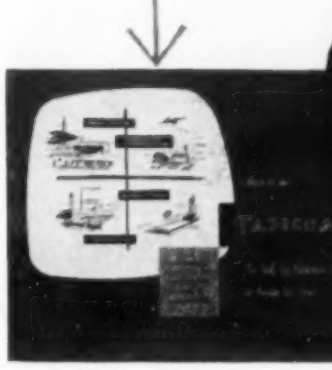
to lower handling costs saves this manufacturer $6.00 every time his five-ton Robbins & Myers "F" hoist handles a bundle of steel. Bigger unit loads, plus "Freeway"* overhead handling methods offer similar savings to all types of industry. For data on this specific hoist write for Bulletin No. 801-C.

**Materials handling on a separate overhead level.*

TAKE IT UP WITH
ROBBINS & MYERS INC
MOTORS HOISTS CRANES FANS MOYNO PUMPS
HOIST AND CRANE DIVISION, SPRINGFIELD 99, OHIO

If you write maker identify as IEN - 7710

HOW TO PROTECT VULNERABLE SURFACES AGAINST CORROSION



New TAPECOAT Booklet Presents Proved Methods of Protection With Coal Tar Coating in Handy Tape Form

Wherever you have a corrosion problem, you will find this guide helpful in working out an economical and practical solution. Based on the experience and research of TAPECOAT engineers since 1941, this factual booklet shows where and how TAPECOAT coal tar coating in handy tape form can be used to overcome corrosive action—both underground and above ground. It presents proved methods of protecting pipe, pipe joints, fittings, couplings, tanks and other vulnerable surfaces, together with case histories demonstrating the ability of TAPECOAT to meet the most severe conditions.

Write for your copy of this helpful guide today.

The TAPECOAT COMPANY
Originators of Coal Tar Tape Protection
1553 Lyons Street
Evanston, Illinois

If you write maker identify as IEN - 7711

"HOLD EVERYTHING"
with this strong, open-side, all-purpose handy vise.

Takes work from 3 sides
Range from 2⅜" to 8⅝"
Positive non-slip grip

Ideal for valves, manifold fittings and all other hard-to-hold items.

● Heavy, one-piece malleable cast-iron body is virtually indestructible. Takes work from 3 sides. Four easily replaceable dies in lower jaw provide positive grip to hold work safely in balanced non-slipping position. Easily installed non-scarring soft jaws also available. Vise screw made of toughest steel has coarse Acme thread for rapid adjustment. Counterbalanced handle, mounted at efficient arm height, can be quickly extended for extra leverage. Wide range replaces three ordinary vises. Far safer and faster than chain tongs. For folder and prices address . . . .

BAKER OIL TOOLS, INC.
BOX 2274 TERMINAL ANNEX, LOS ANGELES 54, CALIFORNIA

If you write maker identify as IEN - 7712

Write for 32 Page Catalog

Listed by Underwriters Laboratories

- Pump Controls
- Duplex Pump Alternators
- High and Low Level Cutoffs
- High and Low Level Alarms
- Multi-Level Signals
- Liquid Metering
- Special Controls and Panels

CHARLES F. WARRICK CO.
1965 W. Eleven Mile Rd.
Berkley, Mich.

Warrick
FLOATLESS
LIQUID LEVEL CONTROLS
ELECTRODE TYPE

If you write maker identify as IEN-7713

Clean Lustrous OFFICE FLOORS reflect Good Management

Look at your floors. Everyone else does! Give your floors that well-groomed look...and preserve their wearing qualities, too...by keeping them properly cleaned, waxed and polished. Just one HILD Machine with attachments will scrub, wax, polish, buff, sand, grind and steel-wool floors of all kinds. Six models with brush spreads from 11 to 19 inches. Also available with tank on handle. Write for complete information.

Also Maintains Factory Floors
The same husky HILD Floor Machine has special attachments for power-scraping bumpy, grease-caked factory floors...and for scrubbing off dangerous grease and oil slicks.

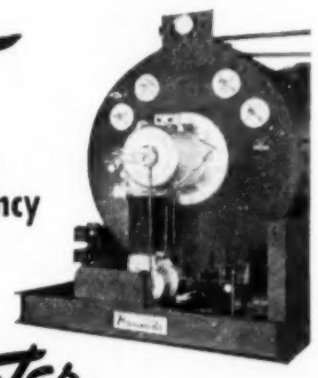
Write today for FREE CIRCULAR on FLOOR MAINTENANCE...

HILD FLOOR MACHINE CO.
740 W. Washington Blvd., Dept. IEN-7, Chicago 6, Ill.

If you write maker identify as IEN-7714

Now-

83% guaranteed minimum efficiency with No. 6 oil



ANOTHER *Powermaster* "FIRST"

• The "pay-off" on any boiler is its operating efficiency. Compare ASME tests on the *Powermaster* with those of any other boiler. You'll see why the automatic *Powermaster* with VORIFLOW combustion is your best buy in packaged boilers. *Powermaster* efficiency actually *increases* at less than full load (which is normal field operation). If you're concerned in any way with specifying, selecting, installing, operating or maintaining boilers for any kind of plant or building, you'll want full information on the cost-saving features of *Powermaster* units. Sizes from 15 to 500 hp. for steam generation to 250 psi, and hot water to 30 psi are available for light oil, heavy oil, gas, and combination gas/oil firing. *Powermaster* units are built to ASME standards and approved by Underwriters' Laboratories.

Send for this NEW BULLETIN...
on your company stationery, stating your steam requirements and operating conditions. No obligation.

Powermaster®
PACKAGED AUTOMATIC BOILERS
designed and built by
ORR & SEMBOWER, INC.
860 Morgantown Road, Reading, Penna.

If you write maker identify as IEN-7716

TRUCK . . Low deck trailer rates 30 ton, measures 17 by 7 feet

Source: MERCURY MFG. CO.
4132 S. Halsted St., Chicago 9, Ill.

Has replaced rail cars in some places

Heavy loads are handled in warehouses and shipping docks with this new Model A-443 steel trailer. It is made of structural beams in longitudinal and cross assembly to support a ¼-in. non-skid steel deck. Mounting is on roller bearing wheels with solid rubber tires pressed in place. A loop handle at the front and a hitch at the rear complete the assembly.

If you write maker identify as IEN-7717

BUILDING . . Extruded plastic sheet for flashing parapets, walls, windows

Source: RUBBER & PLASTICS COMPOUND CO.
30 Rockefeller Plaza, Room 1519, New York 20, N. Y.

Specifications upon request

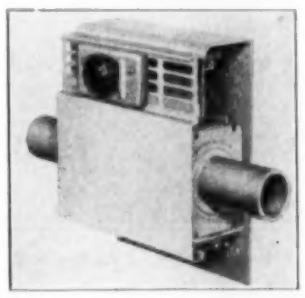
Nervastral Seal-Pruf Type H-D is a new extruded sheet material, impervious to attack by acids, alkalis, dry or wet rot and proof against bleeding or staining. It is supplied in 12 to 36-in. rolls, measuring 72 ft. in material length, for flashing, spandrel beam waterproofing, water stops, pipe and duct wrapping. Shipping weight of a 36-in. roll is 35 lb.

The material remains flexible at temperatures down to minus 20 deg. F. and does not soften below 250 deg. F. It is applied dry by spot bonding to a structure with the company's Nerva-Plast cold setting cement.

If you write maker identify as IEN-7718

HEATING . . Finned radiator applies at base of a wall in a room

Source: KRITZER RADIANT COILS INC.
2903 Lawrence Ave., Chicago 25, Ill.



Catalog B752

Redesign is announced for the company's baseboard heating element for steam or hot water. A back plate secures to the wall, holds a finned pipe in a cradle that prevents noise from dimensional change. The cradle also keeps the fins from touching the enclosure. A front cover snaps into place over support brackets.

Optional equipment includes a valve and manifold, end enclosures with access panels, corners and point covers. A new control opens or closes a damper with a half turn of a knob. One control will handle a damper to 10 ft. in length.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-7719

Femco COMMUNICATION

"YOUR VOICE OF ACTION"

Efficiency is improved—production goes up, when Femco equipment is installed. Consider: as many mike-speaker stations as you need, moving or stationary, anywhere in your plant, office or yard.

DEMONSTRATIONS ARRANGED

ASK FOR YOUR FEMCO DATA KIT

FARMERS ENGINEERING & MANUFACTURING COMPANY
IRWIN, PENNSYLVANIA

Femco CRANEPHONES
Talk from cab to floor and cab to cab

Femco AUDIOPHONES
Fixed-point industrial communication

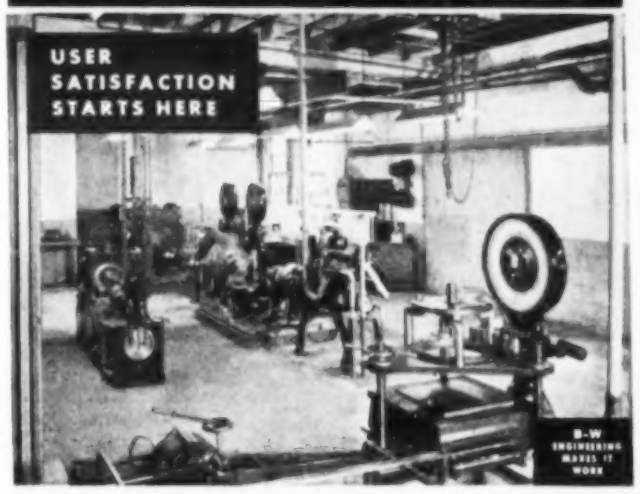
Femco PAGEPHONES
Flexible inter-com and page systems

Femco PORTAPHONES
Movable as your work progresses

SPECIALISTS IN ELECTRONIC Communication and Control

If you write maker identify as IEN-7720

ROCKFORD CLUTCHES



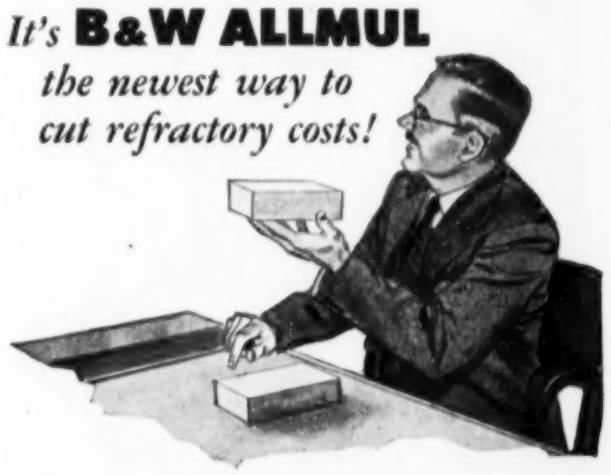
Every type and size ROCKFORD CLUTCH must pass torque, strength, pressure, spin, heat, balance, wear, deflection, friction, run-out, flatness and endurance tests before being put into production. These torture tests are made on specially designed, accurate, clutch-checking machines. Let our engineers give your products the benefit of ROCKFORD test-proved CLUTCH reliability.

B-W PRODUCTION MAKES IT AVAILABLE

ROCKFORD CLUTCH DIVISION BORG-WARNER
303 Catherine Street, Rockford, Illinois, U. S. A.

If you write maker identify as IEN-7721

It's B&W ALLMUL *the newest way to cut refractory costs!*

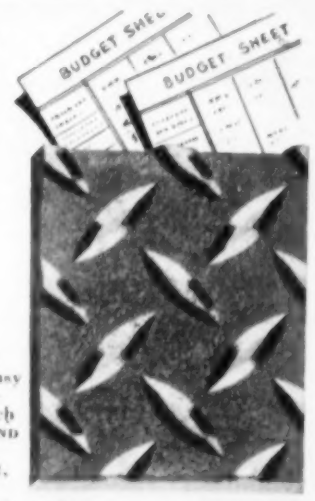


B&W Allmul Firebrick takes tough furnace applications in stride. In fact, this new low-priced, electric-fused mullite firebrick creates a new standard of refractory economy by its low first cost and by eliminating the frequent need for furnace relining. Allmul has high hot load strength, high resistance to spalling, good volume stability and a high melting point. Want to know more about this economical fused-mullite refractory? Send for B&W Bulletin R-29.

THE BABCOCK & WILCOX CO.
Refractories Division
GENERAL OFFICES: 161 EAST 42nd ST., NEW YORK 17, N. Y.
WORKS: AUGUSTA, GA.

If you write maker identify as IEN-7722

THERE'S ROOM FOR THIS FOOT SAFETY IN ANY BUDGET



Economical is the word for A.W. SUPER-DIAMOND Safety Floor Plate. No other flooring gives you more foot safety, ease of maintenance, durability—at such low cost.

SUPER-DIAMOND gives real underfoot safety. Its exclusive, engineered raised-diamond pattern puts 40 anti-skid traction points in every footstep. SUPER-DIAMOND means low-cost maintenance. It's easy to clean with hose, mop or broom—and has no cracks or corners to catch and hold dirt. Finally, SUPER-DIAMOND lasts a lifetime. It withstands hard blows and heavy loads—resists heat, fire and most chemicals.

For safety with economy, learn the facts about A.W. SUPER-DIAMOND. The handy coupon brings you our newest booklet on floor safety.

Pattern shown ½ actual size

A.W. SUPER-DIAMOND
ROLLED STEEL FLOOR PLATE

ALAN WOOD STEEL COMPANY
CONSHOHOCKEN, PA.

Please send me, without charge, your latest booklet SD-43 on SUPER-DIAMOND safety.

Name _____
Company _____
Address _____ *City* _____ *State* _____

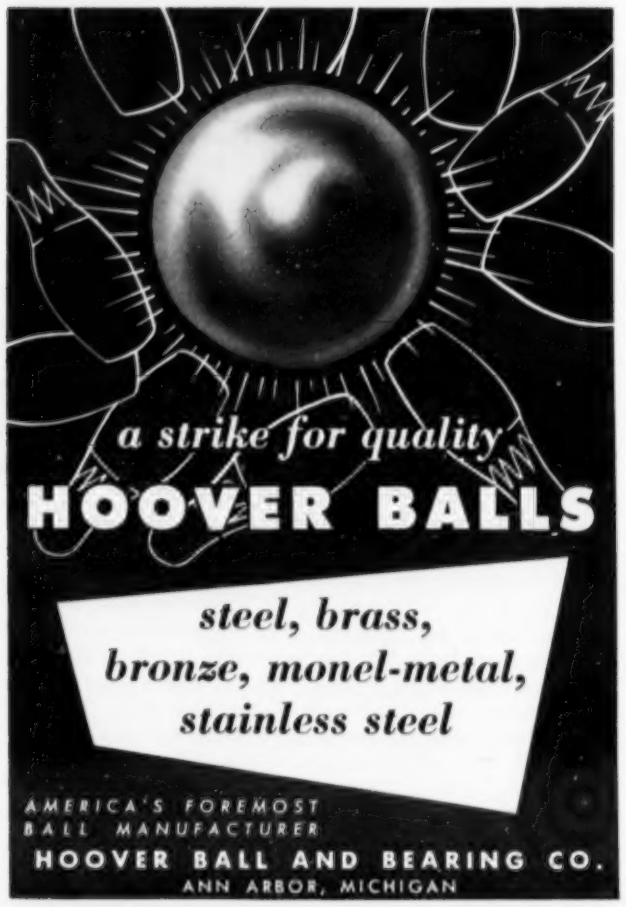
If you write maker identify as IEN - 7723

A FULL 5 x 10 CAPACITY LOW COST SAW FOR LARGE AND SMALL PLANTS

WRITE FOR DETAILS

JOHNSON MANUFACTURING CORP.
ALBION, MICHIGAN

If you write maker identify as IEN - 7724



If you write maker identify as IEN - 7725

New Selector and Comparison Chart for AMSCO Hardfacing Products...

Get this completely, revised up-to-date chart showing you what Amsco Welding Rod to use for licking your wear problem.

Ask your Amsco representative or send the coupon today

AMSCO
389 E. 14th Street
Chicago Heights, Illinois

Please send me the Selector and Comparison Chart for Amsco Hardfacing Products.

Name _____
Company _____
Address _____
City _____ State _____

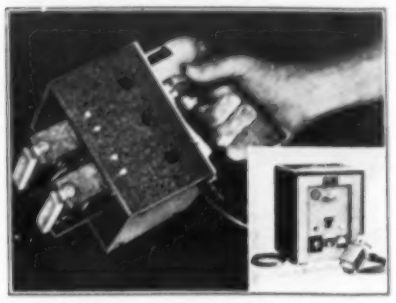
AMSCOATING—*the right way to say hardfacing*

AMERICAN Brake Shoe COMPANY — American Manganese Steel Division
389 EAST 14th STREET • CHICAGO HEIGHTS, ILL.

If you write maker identify as IEN - 7726

DRYING . . Dielectric equipment to set the glue in wood assemblies

Source: MERIT SHORT WAVE DIATHERMY CO.
2756-60 Whittier Blvd., Los Angeles 23, Calif.



Only the glue gets hot

New hand "gun," that mounts the high frequency electrodes in this new electronic glue drying equipment, connects by means of electric cable to a 1½-kw. power unit. It operates on 110-volt ac. The gun is positioned on the work at a point where glue is to be spot dried. It is "tuned" by thumb movement at a small lever beneath the handle as illustrated.

The high frequency field, set up between the electrodes, penetrates the work generating heat within it to dry the glue and make a permanent bond. Application can be made on wood, plastics and other non-metallic materials. Special electrodes are available for corners, curves, special shapes.

A switch can be set to any of three positions, at the power unit, to meet the requirements of a given job. A timer switch also can be turned for automatic or semi-automatic operation in connection with repetitive cycles.

If you write maker identify as IEN - 7727

ENGRAVING . . Etching attachment to cut characters into hardened steel

Source: MICO INSTRUMENT CO.
81 Trowbridge St., Cambridge 38, Mass.

Point arcs to cut

Etching spindle and spring loaded stylus in this new electric etching attachment replace the standard cutter spindle and tracing stylus on the company's standard engraving machine. Power is supplied to the etching spindle through a three-heat transformer that connects to a 110-volt ac. line.

The attachment employs the engraving master characters in their normal position on the machine to etch the pantograph controlled markings into hardened work surfaces. The spindle is equipped with a replaceable tungsten point. The complete attachment lists at $49.50. Extra points add $2.50.

Identify as IEN - 7728

Protective tubes for thermocouples, in connection with aluminum manufacture, are being made of porcelain enameled cast iron for that portion that stands immersed in the molten aluminum. Barrows Porcelain Enamel Company, Wiehe and Langdon Roads, Cincinnati 12, Ohio, is making them. Uncoated tube life of 160 hours has been extended to 500 hours with the porcelain coating.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7729

The Portable MORSE ROTATOR

CUTS COSTS OF:
- MIXING
- BLENDING
- TUMBLING
- CLEANSING

MODEL 500

A powerful, compact motorized unit that will cut costs of mixing, tumbling, cleaning, etc. Scientifically engineered for smooth, safe revolving at speeds of 10, 20 or 40 RPM. Can be loaded by ONE MAN and is easily moved. The power drive has a ¾" dia. shaft and is equipped with self-aligning bearings. Four 4" dia. Neoprene drive wheels with idler attachments are adjustable to take from 1 to 55 gal. drums or cylindrical containers. Wt. before crating 137 lbs. Furnished with motor, gear reduction unit and tipping lever. *Write for complete information.*

MORSE MANUFACTURING CO. INC.
755 West Manlius St. East Syracuse, N. Y.

If you write maker identify as IEN - 7730

NEW MAGNA BIT HOLDER

A REVOLUTIONARY, LABOR SAVING TOOL. CUTS SCREW DRIVING COSTS 3 NEW WAYS

Hand starting or *pre-positioning screws* in assembly operations is *no longer necessary*; a high energy *permanent* magnet in bit chuck holds the bit and energizes it with 10 times the "pull" to hold the screw *firmly* on bit. Labor costs are cut.

Reduces bit costs through the use of super hard, low-cost interchangeable insert bits.

Reduces bit wear and replacement since the energized bit seats itself positively in the screw slot or recess.

Bit holders available for all makes of power and spiral drivers. Also super hardened tool steel insert bits for all types and sizes of screws.

Permanently Magnetic Magna-Tip Hand Screw Drivers . . . bits for all types and sizes of screws
and Magna-Tip Hex Drivers for hex head screws

U. S. Patent No. 2,550,775

Write for Folder 60-E, information and prices

MAGNA DRIVER CORP.
779 Washington St. Buffalo 3, N. Y.

If you write maker identify as IEN - 7731

DEVIL'S PUTTY

FOR CLEANER CASTINGS

DEVIL'S PUTTY . . . a new graphite impregnated plastic refractory for: steel and gray iron ladle linings; making up spouts and runners; linings for ferrous and nonferrous metal melting furnaces and similar applications.

DEVIL'S PUTTY reduces refractory inclusions, thus producing cleaner castings; withstands severe thermal shock without "sluffing off"; contains chemically treated graphite that will not burn out of the mix, which adds surface lubrication and permits cleaner and faster pours. Molten metal has no sticking tendency to DEVIL'S PUTTY lining, so, slag rises quickly to top for easy skimming.

Write for useful literature . . . and the name of your nearest Botfield Distributor

BOTFIELD **REFRACTORIES CO.**
792 S. Swanson St., Philadelphia 47, Pa.
In Canada
Canadian Botfield Refractories Co., Ltd., 171 Eastern Ave., Toronto

If you write maker identify as IEN - 7732

YOU CAN'T BEAT GARRETT

STAMPINGS

OTHER PRODUCTS MANUFACTURED BY GARRETT
SPRING LOCKWASHERS
FLAT WASHERS
HOSE CLAMPS

Save time, trouble and expense by making Garrett your sub-contractor on small and medium metal stampings. Garrett has the "know-how" to meet your most rigid specifications. Three modern plants, automatic high-speed presses up to 150-ton capacity, and up-to-date tool shop provide highest quality of workmanship. Finishing equipment includes tumbling, polishing, heat treating and plating.

To speed production, reduce costs, improve quality, make Garrett your headquarters for metal stampings.

Garrett OF PENNSYLVANIA

GEORGE K. GARRETT COMPANY, INC. PHILA. 34, PA.

If you write maker identify as IEN - 7733

28 COUNT'EM 28

REASONS FOR USING

MASONITE PRESDWOOD

IN YOUR PRODUCTS

- Hard
- Dense
- Smooth
- Grainless
- Great structural strength
- Resist moisture
- Resist weather
- Resist abrasion
- Resist chipping
- Resist many chemicals
- Won't split
- Won't splinter
- Won't crack
- Won't dent
- Dimensionally stable
- Uniform structure
- Equal strength in two directions
- Easily laminated
- Won't rust or corrode
- Can be punched
- Can be drilled
- Can be sawed
- Can be routed
- Can be shaped
- Can be veneered
- Can be die-cut
- Can be bent
- Take and hold applied finishes

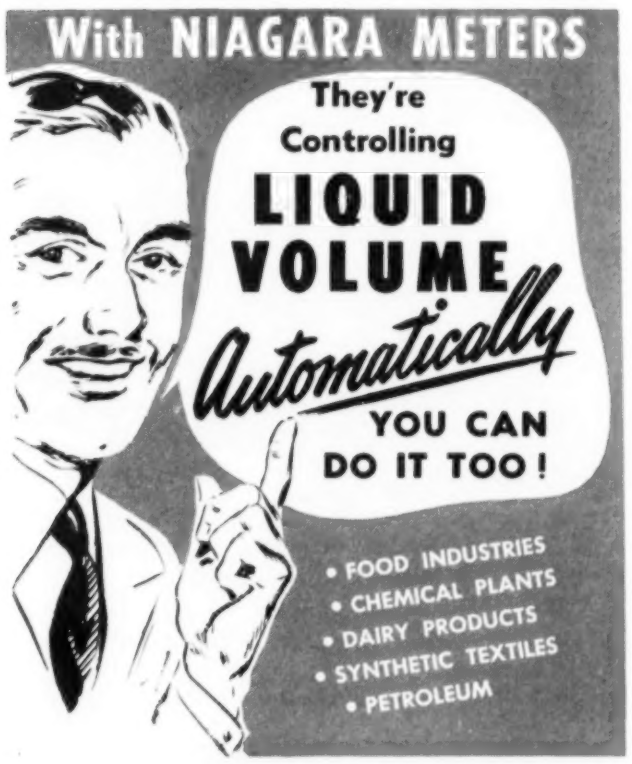
Masonite Presdwood® is boosting quality in thousands of items right now. These durable, all-wood hardboard panels come in 44 different types and thicknesses. For complete data, write—

BETTER HARDBOARDS FOR BETTER PRODUCTS

MASONITE® CORPORATION
DEPT. IEN-7, BOX 777, CHICAGO 90, ILL.

"Masonite" signifies that Masonite Corporation is the source of the product

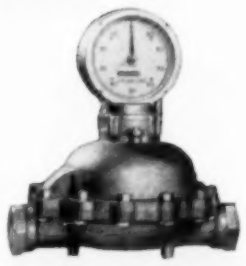
If you write maker identify as IEN - 7734



Imagine the time and guesswork you can save by measuring liquid volumes automatically. Just set the hand of the NIAGARA Electri-Contact METER at the volume desired and turn on the flow of liquid.

SET IT — FORGET IT

It will turn off automatically. NIAGARA METERS enable your men to handle more work.



Practically every type of industry is using and acclaiming the accuracy of NIAGARA METERS. They precisely measure liquid volumes from one to one thousand gallons a minute!

There's a NIAGARA METER for nearly every type of liquid including most chemicals. Investigate the advantages of NIAGARA METERS.

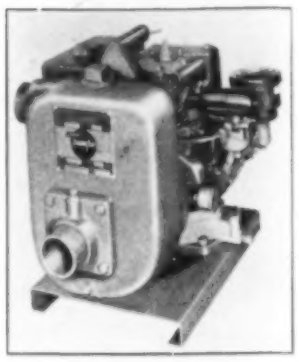
Write today for full details.

BUFFALO METER CO.
2893 MAIN STREET • BUFFALO, NEW YORK

If you write maker identify as IEN - 7736

PUMP . . Engine driven centrifugal, self-priming for utility applications

Source: LANCASTER PUMP & MFG. CO.
852 Manheim Pike, Lancaster, Pa.



$165 and $180

Model 675, with 1½-in. suction and discharge connections, and Model 676, with 2-in. connections, are new engine driven assemblies in the company's line of self-priming Contractors pumps. Mounting is with the engine on a structural base for portable use. A carrying handle is provided. The pumping action is self-cleaning so solids cannot clog the impeller or housing.

The pumps can be employed against total heads of 90 and 100 feet. They rate 97 and 131 gpm. on 30 feet. The engines rate 1½ and a little under 2 hp. at 3,000 rpm. They are equipped with gasoline tanks holding 2 quarts. Weights are 74 and 76 pounds.

If you write maker identify as IEN - 7737

CLEANING . . Degreasing solvent to use instead of carbon tetrachloride

Source: BRULIN CO.
Columbia at 30th St., Dept. 267, Indianapolis 7, Ind.

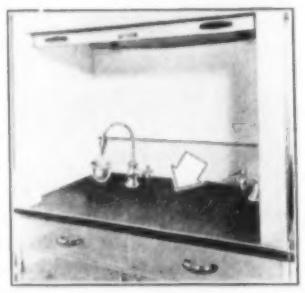
Harmless to worker's hands

Solvent Degreaser is a new non-toxic non-flammable liquid for application in degreasing equipment on production lines. It removes oil and grease from metal surfaces. It is suited to clean electric motors as it will not attack the insulation. It is supplied in concentrated form in 5 to 55-gal. drums.

If you write maker identify as IEN - 7738

TESTING . . Laboratory fume hood with Kemstone top on cupboard base

Source: FISHER SCIENTIFIC CO.
719 Forbes St., Pittsburgh 19, Pa.



Clear work surface

Unitized designates a new fume hood in combination with a cupboard base topped by a single piece of molded and impregnated Kemstone measuring 47 by 30 by 1¼ inches. The Kemstone is free from lines of fracture and will not fail due to thermal shock. It is impregnated with the same chemical resistant polymerized resin used on the company's Unitized furniture.

Services are brought up through holes drilled in the top, using ordinary tools for this purpose. A drip groove along the front edge protects the cabinet from spilled chemicals. A reagent shelf can be specified. The top is available alone or in complete assembly. In the former case it lists at $53.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7739

If you write maker identify as IEN - 7740

If you write maker identify as IEN - 7741

Raises, lowers and transports loads without swing because of patented hoisting rope arrangement. Advantageous for anodizing, dip painting, automatic welding, handling hot metal in foundries, etc. Many units now in operation speeding production and lowering costs.

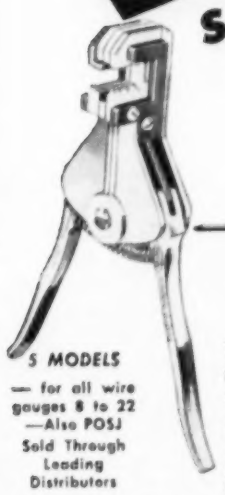
GET THIS DATA
Graphic Vol. 1, No. 4 gives details. Write for free copy.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
4216 East 285th Street • Wickliffe, Ohio

CLEVELAND TRAMRAIL

If you write maker identify as IEN - 7742

ONE light squeeze STRIPS WIRE in 2 seconds!



IDEAL Stripmaster®
Patented, No. 2,523,936

Fastest for all Light Stripping . . . Can't Crush Wire

Unique design gives "trigger-quick" action. Strips up to ⅞-inch. "Automatic" feature prevents crushing of stranded wire. Blade can be changed in a jiffy. Weighs only 10 oz.

5 MODELS — for all wire gauges 8 to 22 —Also POSJ
Sold Through Leading Distributors

SEE ALSO THE IDEAL "E-Z AUTOMATIC" FOR HEAVY DUTY STRIPPING

OTHER WIRING TOOLS
- ☐ Voltage Testers
- ☐ Fish tape, reels and pullers
- ☐ Cable rippers
- ☐ S-X cutters
- ☐ Fuse clip clamps
- ☐ Fuse pullers
- ☐ Test lites

IDEAL INDUSTRIES, Inc.
1108 Park Avenue, Sycamore, Illinois
Please send free catalog information on Stripmaster and other wiring tools as checked.
Name.....
Company.....
Address.....
City..... Zone..... State.....

If you write maker identify as **IEN - 7743**

metal, plastic, wood, rubber or leather products, there's a specific Jewel Brand Abrasive Belt made to help you do the job better . . . faster . . . and at a lower cost. Let an experienced Jewel Brand Abrasive Engineer help you select the *right* one. Write today for complete details. Abrasive Products, Inc., 525 Pearl St., South Braintree 85, Mass.

Jewel Brand COATED Abrasives

If you write maker identify as **IEN - 7744**

Time to Discard

OLD-FASHIONED WAYS

Jacks . . props . . shores . . horses . . why fool with these obsolete methods of handling reels? DO IT THE MODERN, EFFICIENT WAY! Reel or unreel wire, cable, rope with

ROLL-A-REEL

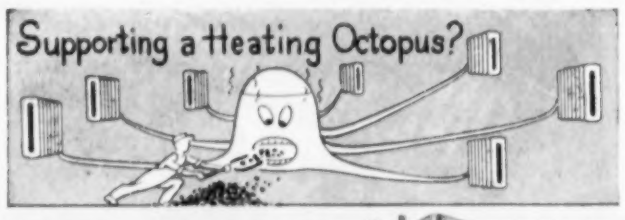
Simple, strong, easily handled stand for your reels to save time and labor. Adjustable slots for wide variety of reel sizes.

Style A: 2,000 lbs. cap. 37.50
Style B: 4,000 lbs. cap. 75.00
F.O.B. Cincinnati

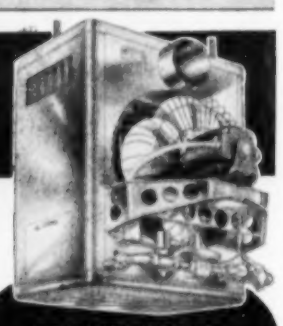
WRITE FOR DETAILS TODAY

ROLL-A-REEL
327 WEST FOURTH STREET
CINCINNATI 2, OHIO

If you write maker identify as **IEN - 7745**



Each REZNOR GAS UNIT HEATER IS A COMPLETE HEATING MACHINE



★ NO LOSS from heat transmission
★ MAKES HEAT where you want warmth
★ SPOT-LOCATE as many REZNORS as you need (no interconnection)
★ ADD to the system as you want (no leaders to run)

REZNOR
WORLD'S LARGEST-SELLING GAS UNIT HEATER

REZNOR IS MODERN . . .
—As many diesel locomotives add or subtract power units as power is needed, Reznor units can be put into or withdrawn from service as heat is needed. REZNOR is efficient. REZNORS install quickly. Before you install any heating—primary or auxiliary, check REZNOR.

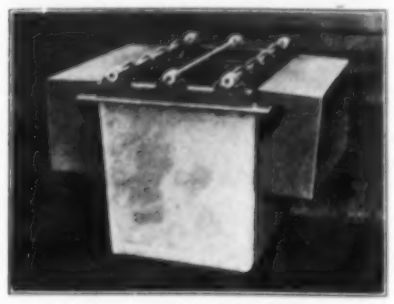
REZNOR MANUFACTURING CO.
10 UNION ST. • MERCER, PENNA.
Send me 20-page catalog in full color

Name _____
Firm _____
Address _____
City _____ Zone _____ State _____

If you write maker identify as **IEN - 7746**

PLATING . . Fiberglas tank, seamless molded construction, to order

Source: HANSON-VAN WINKLE-MUNNING CO.
100 Filbag St., Matawan, N. J.



Quotation on request

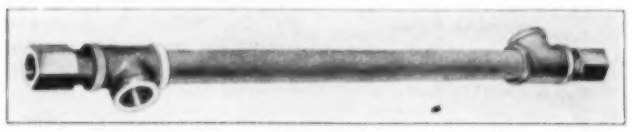
Fiberglas mat is impregnated with Vibrin resin and is molded to specified sizes in construction of this new plating tank. It will handle solutions generally employed in plating work except hydrofluoric acid and caustic cleaner. It is suited for temperatures to 220 deg. F. Standard finish is gray. The tank is free from any seams.

A tank measuring 24 in. in length by 18 in. in width by 20 in. in depth holds 32 gal., weighs 24 lb. and lists at about $76. One measuring 72 by 30 by 36 in. weighs 99 lb. and lists at about $260. Each tank is standard with a 2-in. top flange. Drain flanges for 1¼ to 2-in. pipe add $29.50 each. An overflow dam adds $2.65 per linear foot.

If you write maker identify as **IEN - 7747**

COOLING . . Heat exchanger for engine and hydraulic oil, air

Source: HEAT-X-CHANGER CO.
46 Peaceable Hill Road, Brewster, N. Y.



For small equipment applications

Type OCX is new design in the Heat-X inner fin oil cooler and after-cooler line. It consists of the patented fin equipped seamless copper inner passage through which heated oil or air from a compressor is passed. This passage is surrounded by an outer one made up of standard pipe and malleable fittings to surround the inner passage with cooling water in motion. The inner passage rates to 250 lb. with temperature to 300 deg. F. The annular water passage rates to 150 pounds.

Inner passage connections are ½ to 1½ inches. Water connections are ¾ to 2 inches. Overall length is 14¼ to 51¾ inches. The company has prepared charts and technical data to assist in selection of the correct exchanger equipment.

Identify as **IEN - 7748**

Now, that the cold months are over, is a good time to look at your fuel oil lines, if you use fuel oil of the heavy No. 6 variety. Perhaps you can discard a good deal of oil handling equipment that has been expensive to run and, in its place, install electric heat as applied by Fluid Systems Incorporated. Low voltage current is impressed on the oil lines themselves in connection with thermostatic control that holds the oil at 120 deg. F. whether it is flowing or not. The company has prepared a wealth of information and will send it to you on request. It is prepared to check up on your particular oil line installations and recommend action.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

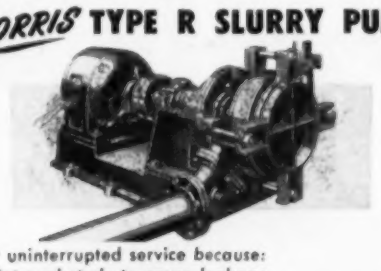
If you write maker identify as **IEN - 7749**

Which **of these Materials Needs More** *Efficient* **Handling in Your Plant?**

abrasive solids and chemicals in suspension • acid slurries and sludges • caustic liquors • milk of lime • soda ash • tailings • slag • ore concentrates • residue from filters and classifiers • coal • silt • washery solids • cement and glass sand slurries

Delivered 'round-the-clock (with fewer breakdowns) by

MORRIS TYPE R SLURRY PUMP



Longer uninterrupted service because:
- No internal studs to cause leakage
- Low pressure stuffing box practically eliminates packing troubles
- Impeller and liner removed without disturbing piping
- Moving parts available in various corrosion/abrasion-resistant alloys

Specifications and operation data on request. No cost — no obligation.

MORRIS MACHINE WORKS
Baldwinsville, N. Y.
Representatives in Principal Cities

MORRIS *Centrifugal Pumps*

If you write maker identify as **IEN - 7750**

Its all in the *Heat Treatment*

ORIGINATORS OF THE SUPER SAFE STEEL STAMPS

The "Tough" back to absorb hammer blows without crushing or distorting —The "SOFT" center to cushion the shock — The "HARD" tip to insure cleaner impressions and a longer lasting stamp make the RICK the better safer stamp. These stamps are made in ANY type to fit ANY holder.

WRITE TODAY for ADDITIONAL INFORMATION

We are also manufacturers of—
- Special branding and knurling wheels
- Engraved plastic molds . . .
- Name stamps . . .
- Designs and trade marks . . .
- Embossing dies . . .
- Various Marking Dies and Tools

PITTSBURGH STENCIL and TOOL COMPANY
REEDSDALE and SCOTLAND STREETS
PITTSBURGH 12, PA.

If you write maker identify as **IEN - 7751**

YOUR BEST DEFENSE *Against* **EYE** *Injuries*

the SAF-I-SPEC

- Featherlite Comfort and Smart Appearance assure employee acceptance.
- Low cost replaceable Optilite® lens.
- Fit over personal glasses.
- Meet Federal Spec. for impact and optical qualities.

Write for Literature and Prices

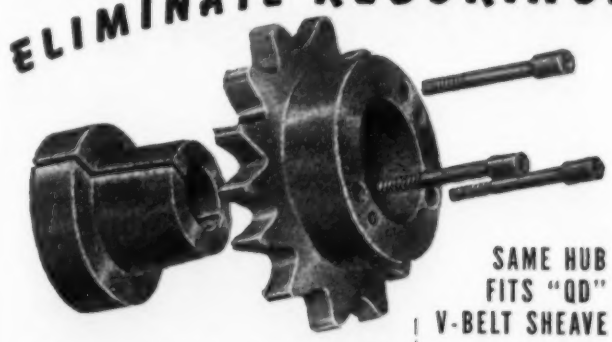
UNITED STATES SAFETY SERVICE CO.
KANSAS CITY 6, MISSOURI — BRANCHES IN PRINCIPAL INDUSTRIAL CITIES
In Canada — PARMELEE, LTD. — Toronto — Montreal

If you write maker identify as **IEN - 7752**

FORT WORTH QD *Roller Chain* **SPROCKETS** WITH TAPERED SPLIT HUB

PATENT APPLIED FOR

ELIMINATE REBORING!



"OFF THE SHELF" SERVICE AVAILABLE FROM INDUSTRIAL DISTRIBUTORS

Reboring of stock bore sprockets to fit various shafts is eliminated due to the various bores available in the QD hub. Installation and removal from the shaft is made easy by the tapered fit of the hub and sprocket. Hub assembly grips the shaft equivalent to a "press fit."

Catalog explaining additional advantages and construction details will be furnished on request.

SAME HUB FITS "QD" V-BELT SHEAVE

Speed changes are simplified and "spare" sprockets can be carried more easily.

If your favorite distributor doesn't stock this new item, tell him about it. He'll reward you with better service.

OTHER FORT WORTH PRODUCTS
V-BELT DRIVES
SCREW CONVEYORS and ACCESSORIES
SCREW ELEVATORS
INDUSTRIAL FANS

FORT WORTH STEEL AND MACHINERY CO
DEPT. 27, 3600 McCART, FORT WORTH, TEXAS

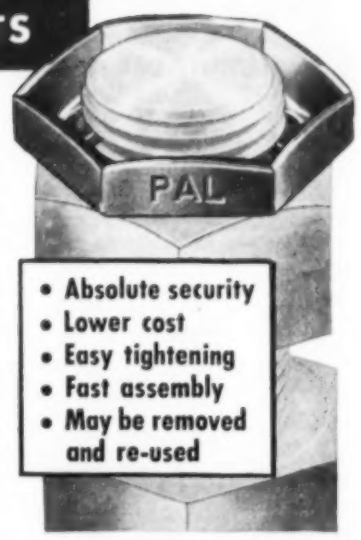
If you write maker identify as IEN - 7753

For Heavy Assemblies and Severe Vibration

REGULAR TYPE PALNUT TRADEMARK **LOCK NUTS**

provide more advantages than any other locking method

By using an ordinary nut to carry the load—plus a PALNUT Lock Nut on top to keep it tight—you have a completely vibration-proof, rugged assembly which stays trouble-free in severest service. Widely used on automotive, electrical and heavy machinery and equipment of all types, with distinct advantages over lock washers, jam nuts, cotter pins, self-retaining nuts.



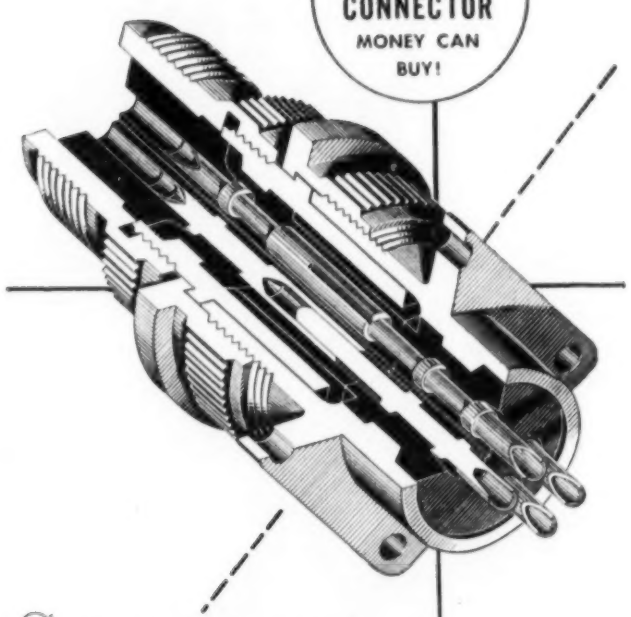
- Absolute security
- Lower cost
- Easy tightening
- Fast assembly
- May be removed and re-used

Send for Bulletin #577
Include details of assembly, bolt size, etc. for free samples.

THE PALNUT COMPANY
59 Cordier St., Irvington 11, N. J.
In Canada:
P. L. Robertson Mfg. Co., Ltd.
Milton, Ontario

If you write maker identify as IEN - 7754

The Finest **ELECTRICAL CONNECTOR** MONEY CAN BUY!



SCINFLEX ASSURES YOU PEAK PROTECTION AGAINST CIRCUIT FAILURE

When operating conditions demand an electrical connector that will stand up under the most rugged requirements, always choose Bendix Scinflex Electrical Connectors. The insert material, an exclusive Bendix development, is one of our contributions to the electrical connector industry. The dielectric strength remains well above requirements within the temperature range of −67°F to +275°F. It makes possible a design increasing resistance to flashover and creepage. It withstands maximum conditions of current and voltage without breakdown. But that is only part of the story. It's also the reason why they are vibration-proof and moisture-proof. So, naturally, it pays to specify Bendix Scinflex Connectors and get this extra protection. Our sales department will be glad to furnish complete information on request.

• Moisture-Proof • Radio Quiet • Single Piece Inserts • Vibration-Proof • Light Weight • High Insulation Resistance • High Resistance to Fuels and Oils • Fungus Resistant • Easy Assembly and Disassembly • Fewer Parts than any other Connector • No additional solder required.

BENDIX SCINFLEX
ELECTRICAL CONNECTORS

Bendix

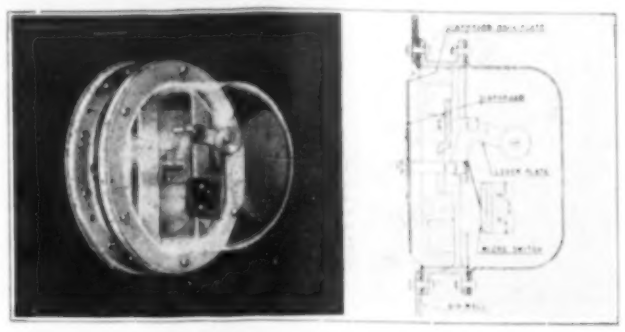
SCINTILLA MAGNETO DIVISION of Bendix AVIATION CORPORATION
SIDNEY, NEW YORK

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.
FACTORY BRANCH OFFICES: 118 E. Providencia Ave., Burbank, Calif. • Stephenson Bldg., 6560 Cass Ave., Detroit 2, Michigan • Brouwer Bldg., 176 W. Wisconsin Avenue, Milwaukee, Wisconsin • 582 Market Street, San Francisco 4, California

If you write maker identify as IEN - 7756

CONTROL . . Materials level indicator for use on bin, chute, or a conveyor

Source: BIN-DICATOR CO.
93-13946 Kercheval Ave., Detroit 15, Mich.



Weighted lever back diaphragm

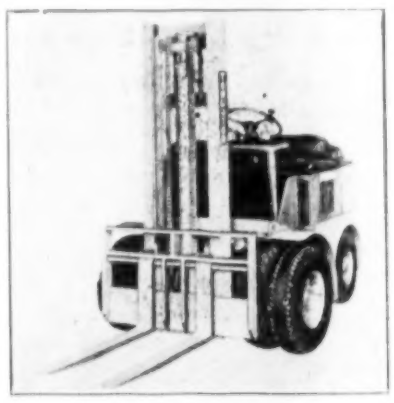
Diaphragm, mounted on the flat face of this recently improved design in the company's line of materials level indicators and controllers, is presented to the interior of a bin, chute, screw conveyor, by assembly over a circular opening in the bin or chute wall. Pressure of bulk materials against the diaphragm causes it to move and operate a mercury switch, a general purpose Micro switch, or an explosion proof Micro, to close or open an indicating or control circuit. In control application it can actuate filling or emptying equipment. It can shut off feed before a machine can clog and result in overload.

New design includes a diaphragm back plate for sensitive action and to limit the diaphragm travel to the minimum required for switch operation. The housing is new design and the switch is on an improved mounting for quick access and flexibility in wiring. Switch rating is 10 amp. on 110-volt ac. The switch action is single pole single throw either normally opened or normally closed.

If you write maker identify as IEN - 7757

TRUCK . . Engine driven fork lift with dual wheels for special duty

Source: TOWMOTOR CORP.
1224-28 E. 152nd St., Cleveland 10, Ohio



Stabilizes the action

Dual wheels are now available on Model 480-P and Model LT-60 pneumatic tired trucks in company's line of fork lift equipment. The dual assembly doubles the tread surface to handle loads over soft outdoor ground. They also stabilize the truck when it is being employed in unusually high lifts. Wide fenders are supplied to extend over the dual wheels.

The drive axle is designed to enable both trucks to handle the same capacities as the initial trucks with single drive wheels. These are 2 ton for the Model 480-P at 24-in. load center and 2, 2½ and 3 ton at 24 in. for the Model LT-60.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

In big letters they spell

YES, big letters because in Nicholson and Black Diamond files quality has a BIG MEANING. It is quality that serves in many ways. For example: to the industrial concern it brings *greater filing efficiency, faster production, longer file life.* Whether the results are increased savings or increased earnings, they are bound to contribute to the profit side of the user's ledger.

The sources of that quality are manifold, too. They are all wrapped up in eighty-nine years of earnestness toward giving file-using industries the utmost in steel selection, file designing and manufacturing techniques.

And our policy of selling only through Industrial Distributors means that we are providing you with an efficient source of supply and also with helpful assistance in selecting *THE RIGHT FILE FOR THE JOB.*

NICHOLSON FILE CO., 23 Acorn St., Providence 1, R. I.
(In Canada, Port Hope, Ont.)

NICHOLSON U.S.A. **NICHOLSON FILES**

FOR EVERY PURPOSE are sold through Industrial Distributors under the policy of *Twelve Perfect Files In Every Dozen*

If you write maker identify as IEN - 7758

In A Few Seconds' Time Lithograph Plates Are Washed and Dried Automatically!

• Metal lithograph plates ride smoothly, evenly through continuous washing and drying operations on a Cyclone Flat Wire Conveyor Belt. Belt is sprocket driven to assure constant speed without slippage and has wide open areas to permit thorough drainage and free air circulation for fast, uniform drying. Laborious hand scrubbing and slow drying, requiring a special room, are eliminated.

Perhaps one of Cyclone's many metal belts could be applied to *your* mechanical handling problems. For free advice call on our experienced engineers and write Dept. C-73 for a copy of Catalog #4.

U·S·S CYCLONE
METAL CONVEYOR BELTS

CYCLONE FENCE DEPARTMENT
AMERICAN STEEL & WIRE DIVISION
UNITED STATES STEEL CORPORATION, WAUKEGAN, ILLINOIS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

USS

UNITED STATES STEEL

If you write maker identify as IEN - 7759

Yes, one false note can ruin years of hard-earned good will. That's why Kester stresses consistency . . . makes sure the solder alloy and especially the flux formula never varies. Kester never experiments at the expense of the solder user!

FREE: *Technical Manual*
Write for your copy of "SOLDER and Soldering Technique."

KESTER
SOLDER COMPANY

4211 Wrightwood Avenue • Chicago 39, Illinois
Newark 5, New Jersey • Brantford, Canada

If you write maker identify as IEN - 7760

Fire-Fighting Equipment

Triple-Action Nozzle Discharges Water Three Different Ways To Cut Fire Losses

Rockwood SG-48 Nozzle discharges high-velocity WaterFOG, straight water stream or low-velocity WaterFOG . . . to help you put out fires faster in ordinary combustibles and flammable liquids.

Made of light-weight aluminum alloy, it's as easy to handle as it is versatile. It comes in ¾", 1", 1½", and 2½" sizes to give you a choice of the following discharge ranges at 100 p.s.i. at the nozzle:

High-Velocity WaterFOG . . 20 to 30 feet
Straight Water Stream . . . 50 to 100 feet
Low-Velocity WaterFOG (through extension applicator) 10' to 22' diameter

Bulletin C501 gives you the whole story on Rockwood SG-48 Light-Weight Triple Action WaterFOG Nozzles. Write for your free copy today.

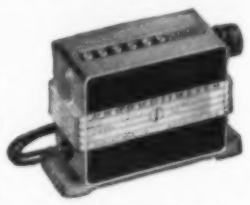
ROCKWOOD

ROCKWOOD SPRINKLER CO.
Engineers Water . . . to Cut Fire Losses
40 HARLOW STREET, WORCESTER 5, MASS.

If you write maker identify as IEN - 7761

MODEL "Y" ELECTRIC PRODUCTIMETER

on the MACHINE or at CONTROL CENTER



The flexibility of the Model "Y" Electric Productimeter offers versatility of application to suit individual needs. Panel mounts grouped at control center give immediate production figures of many machines in different plant departments. Operates accurately over wide current fluctuations. Totally enclosed.

Hi-Speed, Compact, Accurate, Durable. Adaptable to panel or base mounting.

Send for Catalog No. 55

DURANT MANUFACTURING CO.
1930 N. Buffum St. Milwaukee 1, Wis.
130 Orange St. Providence 3, R. I.
Representatives in Principal Cities

PRODUCTIMETERS SINCE 1879 Count Everything

If you write maker identify as IEN - 7762

SALIENT FEATURES OF HAR-BAR BARRIERS

1. High enough to stop your car.
2. Low enough to clear your bumper guards.
3. Barrier is above ground — no drainage problem.
4. Barrier is above ground — no rotting of wood.
5. Automatically spaces your cars.
6. Follows contour of your ground.
7. Easily installed — just line up and drive the anchor pins.
8. Easily moved — just pull the anchor pins. 100% reusable.
9. Easy to clean under.
10. Easy to maintain.
11. Installed on any kind of surface — black top, cement, macadam, gravel or cinders.
12. It really dresses up your parking lot.
13. You always stop against your tire — no shock.
14. Castings are non-rusting aluminum alloy.

Send us a plot plan of your parking lot—we do the engineering free.

HARRIS-BARRIER, INC. 5407 N. PENNSYLVANIA STREET INDIANAPOLIS 5 · INDIANA

If you write maker identify as IEN - 7763

• Cleveland concentrates on making a *few* items *well.* Standard fastener types are made in wider than usual size ranges, including extra large diameters and extra lengths in hex and flat head cap screws and cup point set screws.

CLEVELAND Top Quality FASTENERS
The Cleveland Cap Screw Company
2917 East 79th Street Cleveland 4, Ohio

For Your Special Information

ALL MAKERS ARE LISTED IEN S-23

We were checking through our copy of Thomas' Register to answer one of your special inquiries when we came across a heading that was new to us. It read, "Exploders, Acetylene, to scare off animals, birds, etc." We wrote to the manufacturer, Salt Lake Stamp Co., Salt Lake City, Utah, since it is a part of our inquiry answering job to learn as much as we can about as many subjects as possible.

Mr. William W. Cannon sent us circulars describing the equipment and quoted a list price of $65. The exploder was developed originally to keep predatory animals away from herds of sheep during lambing season. Now it is employed to protect crops of grain and fruit against birds. Cost per acre per day is about 5 cents. Acetylene gas is generated and at intervals it is ignited by a pilot flame to result in a loud explosion that frightens the animals away.

The subject illustrates one more interesting glimpse into the multitude of things that are available to do things with, coupled with the fact that the one best place to look is Thomas' Register where all makers of all products are listed.

TAX STORY IEN S-24

A shower bath valve was broken so the owner ordered a new one. It cost $100 installed. The owner paid for it out of dividends he received from General Motors. He was in the 90 per cent tax bracket so he had to take $1,000 of dividend income to pay the $100 plumber's bill. At the same time, General Motors had to earn $4,149, based on the 1952 tax on business, to pay the $1,000. To do this it had to sell to its dealers $21,570 worth of cars, or about 18 Chevrolets. Newsweek Magazine put the figures together in its March 30 issue this year.

MAKE NO LITTLE PLANS IEN S-25

Roger M. Blough, Vice Chairman, United States Steel, addressed a college graduating class. He cited examples to back his advice—"Make No Little Plans. The plastic industry has expanded 600 per cent in the past ten years. The glass industry has made more progress in the past 25 years than in the previous 2,500. New types of agricultural implements are needed. The chemical industry continues on its forward march. Transportation will increase operations with future technical advances. Home appliances will go much further in eliminating drudgery. Atomic energy has hardly started. Mining and oil industries will call for ever greater expansion. Medicine has increased the life span from 40 to 67 years. There are 50 college students now for each one of 75 years ago. In the steel industry are thousands of opportunities for youthful, imaginative, searching minds."

Best U. S. investment:

United States Savings Bonds

If you write maker identify as IEN - 7764

We make satisfied customers

Package your products in Lermer Plastic durable, handsome containers. They are shatterproof, 75% lighter than glass, available clear or opaque in many colors, can be printed or decorated and are available with metal or plastic closures. Write for complete catalog information and samples. If possible, send along products for particular suggestions.

LERMER PLASTICS, INC.
Pioneers and Pacesetters in Plastic Packaging
518 South Ave., Garwood, New Jersey

If you write maker identify as IEN - 7765

MYSTIK BRAND TAPES · SELF-STIK

Protecto-Mask

eliminates costly refinishing!

Highly polished surfaces on aluminum, stainless steel, plastics, glass . . . metals and materials of all kinds . . . *must* be protected from costly scratches, in fabrication, storage, shipment.

MYSTIK® Brand Protecto-Mask is *self-stik* . . . easily applied directly from the roll for a tough, scuff-resistant "skin." Adheres instantly, yet peels off easily without leaving residue. Can also be used for layout and diagramming.

WRITE TODAY for information and samples. Mystik Adhesive Products, 2644 North Kildare Ave., Chicago 39.

Trademark Mystik Registered ©Mystik Adhesive Products, 1952

If you write maker identify as IEN - 7766

'Shear-Seal' Valves Save You Money,

not just in valve maintenance and service, but their leakproof characteristics take a load off your pumps, compressors and accumulators. We have seen cases where cylinders needed frequent repacking because of temperature build-up in the lines, and restricted or leaky valves were the cause.

Experience has shown that Shear-Seal Valves wear-in where others wear-out. Write for Bulletin BVM-2 describing the Shear-Seal principle in detail, and send for catalog on shut-off, selector, and dual pressure valves for service ranging from vacuum to 6000 P.S.I. air, water and hydraulic oil.

BARKSDALE VALVES

1566 E. SLAUSON AVE., LOS ANGELES 11, CALIF.

If you write maker identify as IEN - 7768

TOLEDO SELLS ONLY THROUGH ITS DISTRIBUTORS

No other method of distribution has ever matched Manufacturer to Distributor to User. It's the most economical short cut to getting goods promptly to users.

Our 50 years experience in marketing the TOLEDO line of pipe tools and power pipe machines has proven this fact beyond a doubt.

- **ECONOMY**—Buying many products from one source simplifies your problems of purchasing, selling, bookkeeping and storage.
- **SPEED**—Your Distributor carries large stocks of equipment you need for immediate delivery.
- **RELIABILITY**—Your Distributor is your friend and neighbor. Rely upon him. He serves you well.
- **PERSONAL CONTACT**—Your Distributor's salesmen are ready at all times to help you in emergencies.

Depend on your Distributor and TOLEDO for reliable service at all times. The Toledo Pipe Threading Machine Co., Toledo, Ohio.

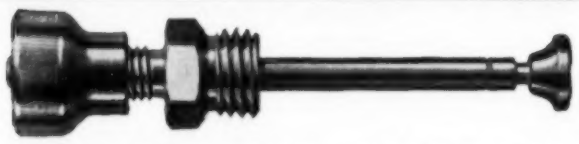
"TOLEDO"

Mark of Quality on Fine Pipe Tools

If you write maker identify as IEN - 7769

Meet Your Clamping Needs With These MODERN

MERRIMAN PRESSURE UNITS

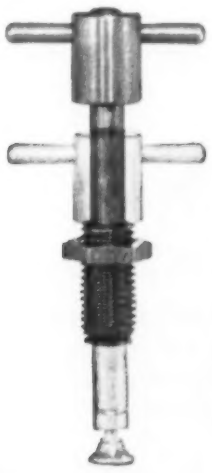


SWIFT • VERSATILE • ECONOMICAL

The Perfect Answer to many a Clamping Problem

- Takes the place of a screw . . . Nothing complicated; no cam action or eccentric pin arrangement to go wrong or wear out.
  - To apply, merely weld a standard one-inch nut, or tap a standard one-inch hole to your fixture or clamping area. Screw the pressure unit in.
- For safety, snap ring at foot of unit, when engaged in its seating, prevents moving bar from falling down or interfering with the work when in unlocked position.
  - Easily adjusted for the amount of travel or clearance desired . . . Gives up to six inch travel in standard sizes which are furnished in three lengths, 6", 8" and 10". Also larger lengths if desired.
- Standard Model Pictured has ⅜" Bar . . . Applies pressure up to 100 pounds.

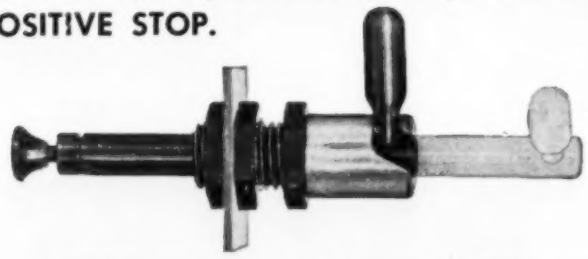
HEAVY-DUTY MERRIMAN PRESSURE UNIT



This Heavy-Duty Unit is of the same general description as given above, but instead of adjusting the handle to the thread, all positioning is applied on the thread. The Bar is heaver, ⅝". Applies pressure up to 300 pounds.

PLEASE NOTE

We can also furnish you a *PRESSURE UNIT* provided with a POSITIVE STOP.



WRITE FOR LITERATURE AND NAME OF DISTRIBUTOR IN YOUR AREA

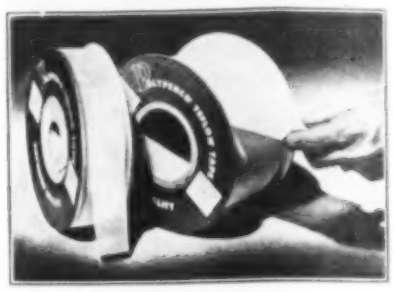
E & E ENGINEERING CO.

15023 Harper Ave., Dept. B, Detroit 24, Mich.

If you write maker identify as IEN - 7771

INSULATING . . Teflon tape applies readily, is chemically inert

Source: POLYMER CORP.
405 Walnut St., Reading, Pa.



Supplied on spools

Widths range from 1 to 12 in. in ¼-in. steps for this new Polypenco Teflon tape. Thickness measures 0.002 to 0.125 inch. The tape is not subject to attack by weathering, temperature fluctuations or exposure to oils or greases. It is chemically inert and has excellent electrical properties over a range of frequencies and temperatures. It will not deteriorate in service in temperature to 518 deg. F.

Other characteristics are strength, smoothness, ability to fit tightly over sharp bends and around corners and to apply in locations normally difficult to insulate. Color is white. Weight is not a factor.

If you write maker identify as IEN - 7772

CLEANING . . Waterless hand cream removes dirt, paint, tar, shellac

Source: E. I. DU PONT DE NEMOURS & CO.
2518 Nemours Bldg., Wilmington 98, Del.

Suggested retail
$.55 and $1.50

A teaspoonful of the new Hand Cleaner is wiped over a worker's hands. It changes from a cream to a liquid, loosens foreign matter. Wiping with a cloth or paper towel leaves the hands clean and soft. No water is needed. Cleaning is by solvent action. Packaging is in 7 and 28-oz. cans with double friction lids to hold the new material securely.

If you write maker identify as IEN - 7773

PRESS . . Self-contained hydraulic to bend, form, press fit, rivet, stake

Source: STUDEBAKER MACHINE CO.
1114 S. 9th Ave., Maywood, Ill.

On a press fit job

Model 220G is a new size in the company's line of self-contained hydraulic gap type presses which cover an overall capacity range of 10 to 100 ton. The new machine rates 20 ton and mounts a platen measuring 12 by 17 inches. Gap dimension is 10 inches. Floor space is 22 by 36 inches. Control centers at either a foot or hand throttle. A pressure gage is included in the power line. Pressure is supplied by motor driven equipment enclosed in the housing.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7774

the world's most widely used Electronic Supply Guide

free

ALLIED'S COMPLETE UP-TO-DATE CATALOG

the World's Largest Stocks of ELECTRONIC SUPPLIES FOR INDUSTRY

Simplify and speed your purchasing of electronic supplies and equipment. Send your orders to us at ALLIED—the reliable one-supply-source for *all* your electronic needs. You can depend on immediate shipment from complete, quality lines that are *always in stock*. Send today for your FREE copy of the ALLIED Catalog—the *complete, up-to-date* guide to the world's largest stocks of Electronic Supplies for Industrial use.

One complete dependable source for everything in electronics

ALLIED RADIO
833 W. Jackson Blvd., Dept. 14-G-3
Chicago 7, Illinois

If you write maker identify as IEN - 7775

Handling Fine, Dry Materials?

That Means DUST and a job for ROTO-CLONE

Fine dust from this paint pigment mixer is removed and collected by Type W ROTO-CLONE

Paint, chemical, food and pharmaceutical are typical industries having dust problems created by the mixing, blending, weighing or dumping of fine, dry materials. Effective control of such dust is a job for the Type W ROTO-CLONE. Here's why—unit combines dynamic precipitation with water sprays for high efficiency collection of these extreme fines. Its cost is low—space requirements small.

AAF's complete line of ROTO-CLONE equipment permits an unbiased analysis and economical solution of your dust problems. For immediate action, call your local AAF representative or write us direct.

American Air Filter COMPANY, INC.

335 Central Avenue, Louisville 8, Kentucky
American Air Filter of Canada, Ltd., Montreal, P. Q.

If you write maker identify as IEN - 7776

- ★ Fast delivery on cords of standard construction.
- ★ Complete engineering and manufacturing service on cords for special applications.
- ★ Integrated engineering-production control from rod mill to mold department.
- ★ Most comprehensive stock of dies and molds for electronic cords and assemblies in existence.
- ★ Quality proved by use on millions of products.

Write for details, explaining your application

WIRE SX PRODUCTS

CORDS LTD.

DIVISION OF ESSEX WIRE CORPORATION
121 DODGE STREET, DE KALB, ILLINOIS

If you write maker identify as IEN - 7777

SHENANGO *Centrifugal* CASTINGS ... *KEY TO SAVINGS*

LEARN WHY . . .

SHENANGO MEEHANITE METAL BAR STOCK means superior quality parts!

FIRST, centrifugally cast Shenango tubular bars assure more uniform pressure-dense grain, and complete freedom from blowholes, sand inclusions and other similar defects. They are better able to withstand friction, abrasion, and all kinds of stresses.

SECONDLY, both solid and tubular bars are made of superior, scientifically controlled Meehanite Metal. The metallurgical structure of Shenango Meehanite Metal is predetermined and controlled throughout the foundry operations, to produce the best quality bar stock available. What's more, machining speeds can be increased, and a smoother, finer finish is assured.

Get all the facts
SEND FOR BULLETIN NO. 152

SHENANGO-PENN MOLD COMPANY
Centrifugal Castings Division
Dover, Ohio
Executive Offices: Pittsburgh, Pa.

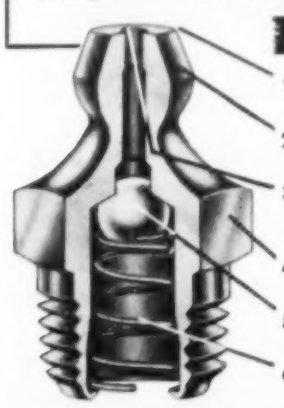
SHENANGO

ALL RED BRONZES • MANGANESE BRONZES • ALUMINUM BRONZES
MONEL METAL • NI-RESIST • MEEHANITE® METAL

If you write maker identify as **IEN - 7778**

for positive, leakproof lubrication...
"Armor-Hard"
ALEMITE FITTINGS

Only Alemite offers so complete a line of hydraulic fittings designed and perfected by Alemite to meet every exacting industrial lubrication requirement—here are the fittings that open the way to faster lubrication and impressive savings in time, money and lubricant.



BETTER 6 WAYS!

1. Sharp dirt-cutting edge bites through dirt and old grease.
2. Exact contour and shape of tip gives a wider sealing angle.
3. Small opening and solid column of lubricant seals against entrance of dirt and grit.
4. "Armor-Hard" body resists scratches, nicks and bending.
5. Hardened steel ball check prevents grease leakage.
6. Best quality music wire spring retained by extra heavy crimp.

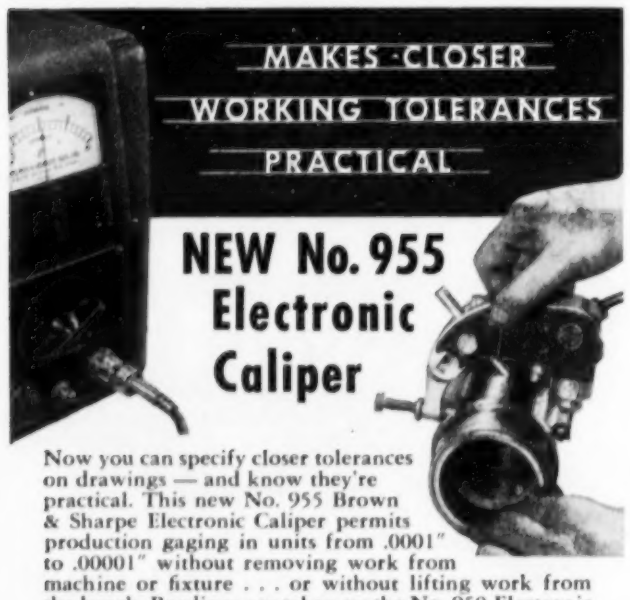
Contact your Alemite supplier today!

ALEMITE A PRODUCT OF SW STEWART WARNER

1850 Diversey Parkway, Chicago, Illinois

Modern Lubrication Methods That Cut Production Costs

If you write maker identify as **IEN - 7779**

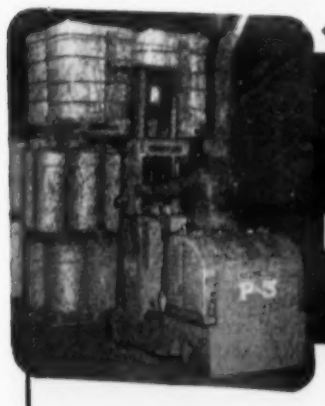


Now you can specify closer tolerances on drawings — and know they're practical. This new No. 955 Brown & Sharpe Electronic Caliper permits production gaging in units from .0001" to .00001" without removing work from machine or fixture . . . or without lifting work from the bench. Readings are taken on the No. 950 Electronic Amplifier. Four interchangeable jaws provide a measuring range from 0" to 4" . . . only one master needed for each setting. Aligning attachment also available to facilitate measuring long work pieces. Write for the new illustrated Bulletin. Brown & Sharpe Mfg. Co., Providence 1, R. I., U.S.A.

B·S *WE URGE BUYING THROUGH THE DISTRIBUTOR*

Brown & Sharpe

If you write maker identify as **IEN - 7780**



High tiering eight palletized rolls

250% Gain in Storage, using ELWELL-PARKER Trucks

At a prominent textile finishing plant, Elwell-Parkers high stack 54 palletized rolls of cloth in the space previously occupied by 15.

Carloading Time Cut from 28 to 1½ Man-Hours—At this same plant, it formerly took 3½ hours for 8 men with hand trucks to load a boxcar. Now, the E-P truck operator with one helper does job in 40 minutes—*only 5% of previous man-hours!*

To learn about the savings in man power and storage space being made by Elwell-Parker trucks in over 300 different industries, send for:—

FREE BOOKLET *on Scientific Materials Handling. Ask for a copy of "Industrial Logistics".*

THE ELWELL-PARKER ELECTRIC COMPANY

4063 St. Clair Avenue • Cleveland 3, Ohio

If you write maker identify as **IEN - 7781**

GAGE . . Liquid level indicator for remote use, visible from sides

Source: YARNALL-WARING CO.
122 Mermaid Lane, Philadelphia 18, Pa.

Brightly lighted

New design of the Yarway remote liquid level indicator, previously described IEN-8889-48, employs a raised transparent face and an indicator arm. This arm is extended under the cover so it is clearly visible from the sides as well as the front. The gage mounts on a panel at any convenient location to provide boiler water level readings. It is approved by ASME under Code Case 1155 for boilers over 900-lb. pressure.

The gage connects through special fittings and two small tubes so change in liquid level causes corresponding change in static pressure in one of the tubes. Pressure in the other remains constant. The resulting differential causes gage pointer movement over the scale.

If you write maker identify as **IEN - 7782**

ELEVATOR . . Portable power lift will tier palleted loads to 115 inches

Source: RAYMOND CORPORATION
35 Madison St., Greene, N. Y.

Rates one ton

Pallet Stacker is a new wheel mounted hydraulically operated elevator for use in small plants and warehouses. It is equipped with base forks that can be adjusted for pallet widths between 30 and 48 inches. Its uprights measure 83 in. in collapsed height and 139 in. when extended for the 115-in. fork lift height.

Mounting is on two 5 by 2-in. load wheels and two 8 by 2-in. steering wheels. Weight is 1,300 pounds. A ¾-hp. motor drives a hydraulic pump to supply lifting pressure. Movement is controlled at a pushbutton elevating control and hand valve lowering control. The unit can be operated in narrow aisles, box cars, mobile trailers.

Identify as **IEN - 7783**

Applicants for sales positions are tested for ingenuity, resourcefulness, drive, ability to express ideas, interpersonal relationships, in a new service operated by Tradeways Incorporated. It is known as the Nirenberg Test of Sales Sense and is conducted by the company at its own offices in New York City. The tests are sent to a client's field office in other localities. There they are applied to the applicants and returned to New York for evaluation and report back to the client. Charge per applicant is $35.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 7784**

SPEED PRODUCTION • CUT COSTS ELIMINATE SHRINKAGE...

Resistance Spot Welding & Soldering Machines

Models 1000 WV, 2000 WV & 5000 WV—AC only

For hard soldering, soft soldering and spot welding precious and dissimilar metals. Spot welds steel parts up to 3/16 of an inch thick; welds brass up to .080"; solders brass up to ¼ of an inch. Has myriad applications in small metal parts production.

Write for catalog of complete line.

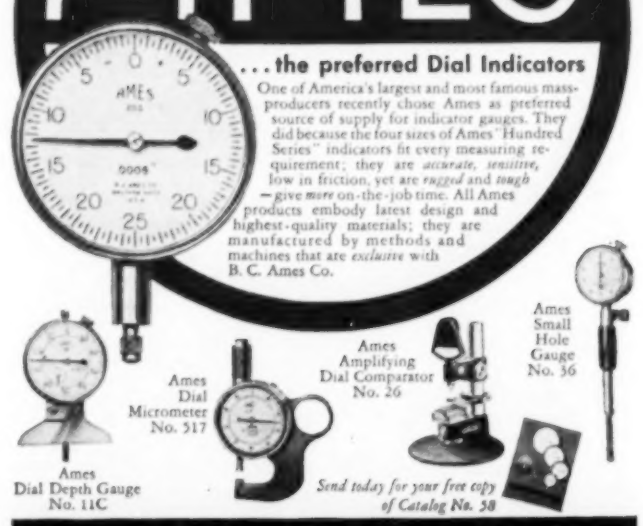
JOYAL PRODUCTS, INC. 56B BELMONT AVENUE NEWARK 3, N. J.

If you write maker identify as **IEN - 7785**

AMES

...the preferred Dial Indicators

One of America's largest and most famous mass-producers recently chose Ames as preferred source of supply for indicator gauges. They did because the four sizes of Ames "Hundred Series" indicators fit every measuring requirement; they are *accurate, sensitive,* low in friction, yet are *rugged* and *tough* — give *more* on-the-job time. All Ames products embody latest design and highest-quality materials; they are manufactured by methods and machines that are *exclusive* with B. C. Ames Co.

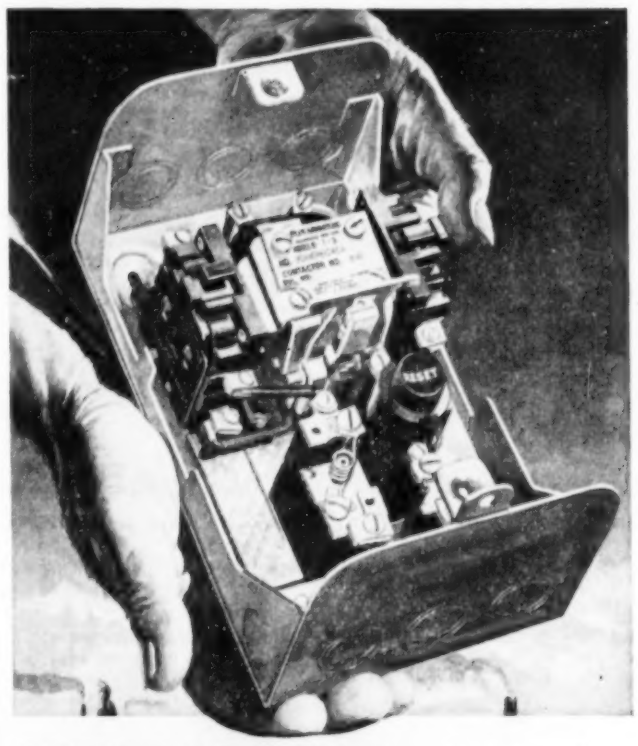


Send today for your free copy of Catalog No. 58

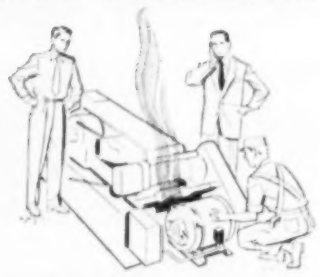
Representatives in principal cities. **B. C. AMES CO.** *33 Ames Street Waltham 54, Mass.*

Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

If you write maker identify as **IEN - 7786**



CUTLER-HAMMER ★★★
motor control features
Another CUTLER-HAMMER "First"...



Three-coil overload protection in standard motor control construction and enclosures

Now the universally desired and widely demanded *full* three-phase overload protection, so necessary to prevent single-phasing motor burnouts, is here as an optional feature in standard starter constructions and enclosures. *Complete* three-phase motor protection . . . without the high cost of special starter assemblies and the many problems of stocking, handling and installing such special starters in their cumbersome off-size cases. CUTLER-HAMMER, Inc., 1378 W. St. Paul Avenue, Milwaukee 1, Wisconsin.

and the 3 stars stand for 3 *NEW* standards in motor control

CUTLER-HAMMER MOTOR CONTROL C-H

If you write maker identify as IEN - 7788

Now...Spring Makers and Spring Users alike have a Uniform Method for Testing Springs!

THE TORRINGTON SPRING TESTER

Uses: for accurate inspection, in-use testing, designing springs for specific uses, and as a basis for statistical quality control.

Simple: can be used at operating levels by relatively inexperienced personnel. Portable!

Accurate: 2 models—the 3 pound model measures loads to the nearest 1/100 ounce, and the 16 pound model to the nearest 1/5 ounce; lengths and deflections to 1/1000 inch.

Fast: requires minimum time to adjust for accurate readings, or to reset for other springs.

Practical: measures under conditions approximating actual use, through interchangeable fittings.

High sensitivity: over a wide range, on both tension and compression types of springs.

For complete information please write:

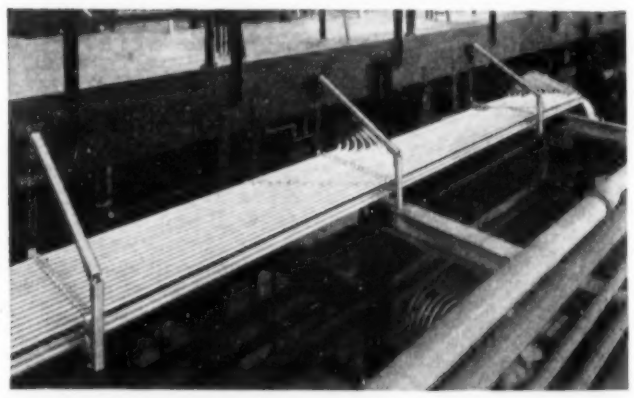
The TORRINGTON MANUFACTURING COMPANY TORRINGTON, CONNECTICUT

WORLD'S LARGEST BUILDERS OF SPRINGMAKING MACHINERY

If you write maker identify as IEN - 7789

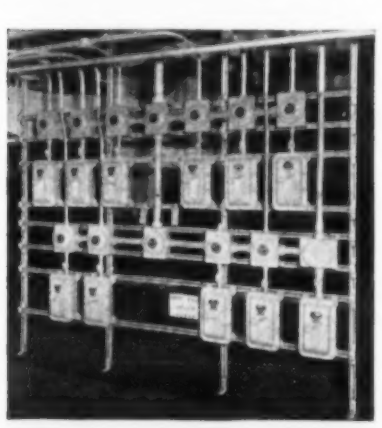
Build

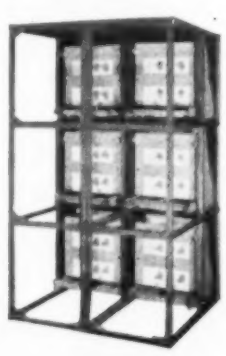
all these things and more, with versatile UNISTRUT® METAL FRAMING



UNISTRUT framing and pipe clamps support heavy banks of conduit leading to motors in plant of large pharmaceutical manufacturer.

Right: framework of UNISTRUT channel and fittings support switch gear in typical cubicle installation.





Left: load center built with UNISTRUT channel and fittings. Framing system's adjustable feature permits quick location of gear to spot desired.

Rack conduit, cable and pipe—Frame power load centers—Mount switches, meters and panelboards

With the UNISTRUT system you save engineering detailing time and eliminate the need for trained erection crews. No drilling, no welding, no special tools or equipment—all you need is a hacksaw and a wrench.

Write today—

for New FREE 84-page Pocket Catalog No. 800—for the MAN ON THE JOB!

Dept. D7

UNISTRUT PRODUCTS COMPANY
1013 W. Washington Blvd.
Chicago 7, Illinois

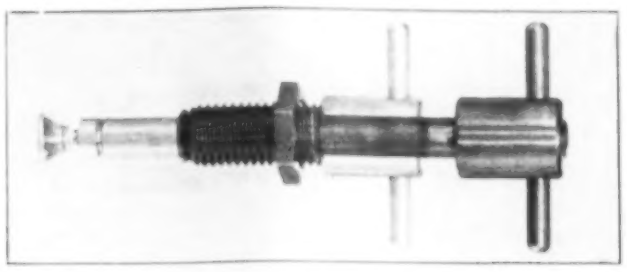
UNISTRUT

THE WORLD'S MOST FLEXIBLE ALL-PURPOSE METAL FRAMING

If you write maker identify as IEN - 7791

CLAMP . . Quick-acting design for application in jigs and fixtures

Source: E & E ENGINEERING CO.
15021-25 Harper Ave., Detroit 24, Mich.



Threaded design prevents loosening

Three lengths are 6, 8 and 10 in. for this new assembly of handle and foot equipped threaded rod and bushing. The bushing is threaded both inside and outside. It applies in a standard 1-in. nut, welded to a fixture, or in a hole drilled and threaded in the fixture body. It is equipped with a locknut so it can be positioned and repositioned in the fixture to determine a required travel or clearance.

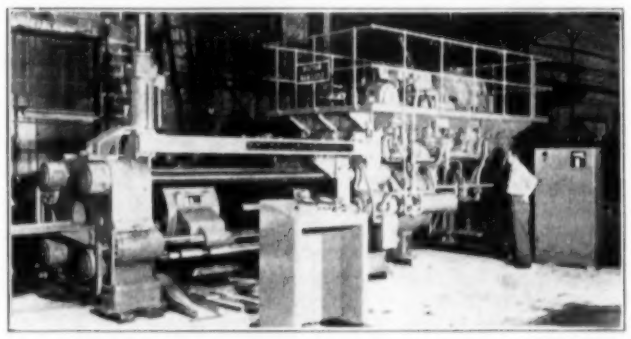
The handle is secured to the rod by a lock screw so it also can be moved to a limiting position. A snap ring locates near the clamping foot to prevent the bar from falling down on or interfering with the work. A pressure ring, at the end of the bushing, holds the rod when it is released and is being employed in vertical position. Finish is rustproof black.

Approach and retraction from the work is by pushing or pulling the bar. Final tightening occurs when the threads on the bar engage the inner threads on the bushing and the bar is turned a small amount.

If you write maker identify as IEN - 7792

PRESS . . Hydraulic machine to extrude aluminum, rates 1,250 ton

Source: WATSON-STILLMAN CO.
109 Aldene Road, Roselle, N. J.



Built to order

A billet, to 24 in. in length, can be loaded into the container of this new horizontal hydraulic machine on a single forward stroke of the main ram, which moves at 8 ips. A U-shaped opening is provided to mount the die ring and bolster so die changing can be accomplished quickly. Sequence of operation is semi-automatic with interlocks to protect mechanisms and limit switch adjustment to set thickness of the butt.

Control buttons are provided also for manual operation. Control centers at a separate pedestal where a speed control lever permits stepless adjustment at the main ram.

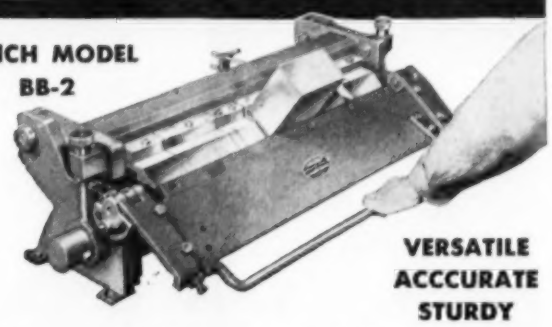
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7793

Bending Sheet Metal

CHICAGO UNIVERSAL BOX and PAN BENDING BRAKE

BENCH MODEL BB-2



VERSATILE ACCCURATE STURDY

This CHICAGO hand bending brake is ideal for bending sheet metal up to 18 gauge and 24" wide. Model and experimental shops, production departments find this machine unmatched for single pieces or production runs in folding, box and pan work, and a limitless variety of straight bending operations. Very little experience is required to do accurate and fast work.

Write for full particulars

Steel Bending Brakes for over 50 Years

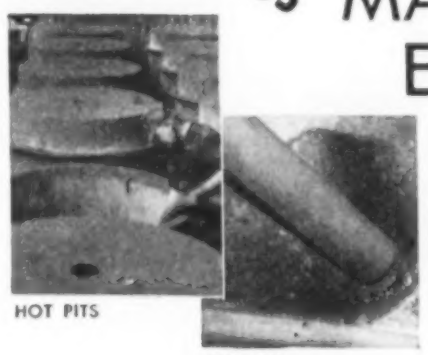
4424

DREIS & KRUMP MANUFACTURING COMPANY
7448 S. Loomis Blvd., Chicago 36, Ill.

CHICAGO

If you write maker identify as IEN - 7794

TEDIOUS JOBS MADE EASIER



HOT PITS

FLY ASH

with SPENCER HARTFORD VACUUM

Tedious—and expensive jobs are eliminated in more than 100 ways with Spencer Vacuum. Hundreds of special vacuum tools have been devised—for vacuum units ranging from 1½ to 100 HP. Smaller sizes for your offices.

You can reclaim materials, remove liquids, vapors, and the finest dusts and speed up your assembly and inspection lines with Spencer Vacuum. Our representative near you has information of value on these subjects.

ASK FOR BULLETIN No. 144

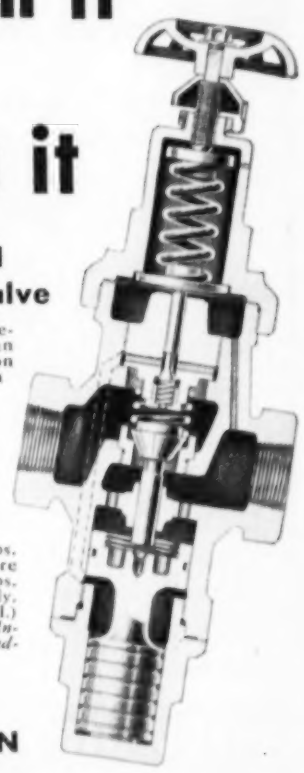
THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT

SPENCER HARTFORD

466-L

If you write maker identify as IEN - 7795

Just Clean it to Maintain it



Masoneilan No. 11 Pressure Reducing Valve

Service records indicate maintenance consists of little more than keeping the moving parts clean on this better-than-ever Masoneilan Pilot Operated Steam Pressure Reducing Valve. Users tell us it's the most accurate, dependable reducing valve they've ever installed.

Sturdy. Corrosion-resistant. With wide range of reduced pressure settings. All parts may be removed with valve in the line.

Initial pressure up to 250 lbs. reduced to any desired pressure — 10 – 90 lbs. or 75 – 225 lbs. Sizes ½" to 2" with bronze body. (Also available in iron and steel.)

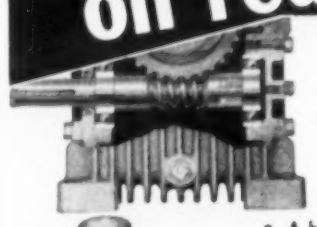
Call your local Mason-Neilan Industrial Distributor for fast, dependable service.

MASONEILAN

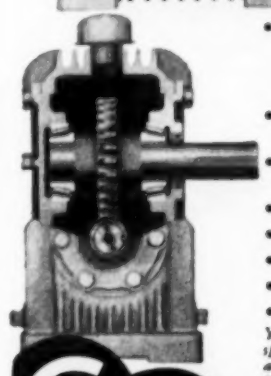
MASON-NEILAN REGULATOR CO.
1168 Adams Street, Boston 24, Mass., U. S. A.

If you write maker identify as IEN - 7796

The INSIDE story on reducers



You have to look inside to find why a compact Cone-Drive speed reducer can carry so much load for its size or why it provides such long, maintenance-free service at so low a cost. Here are some of the 'inside' reasons:



- **A high load carrying capacity, double enveloping worm gear set with all gear teeth on a 45-deg. arc in continuous area contact with the worm thread.**
- **Heavy-walled, internally reinforced finned housings.**
- **Precision tolerances that provide complete interchangeability for replacement parts.**
- **Long-life anti-friction bearings.**
- **Wearproof plastic shims.**
- **Dust excluding breather.**
- **High carbon, chrome-moly nickel worm.**
- **Chill-cast, copper-tin-nickel bronze gear.**

You can find a Cone-Drive reducer to meet the specific needs of most industrial machinery among a line of standard models from fractional to 800 horsepower with center distances from 2 to 18 inches and ratios from 5/1 to 70/1.

CONE-DRIVE GEARS
Division Michigan Tool Company
DOUBLE ENVELOPING GEAR SETS & SPEED REDUCERS
7171 E. Nevada Road • Detroit 12, Michigan

If you write maker identify as IEN - 7797

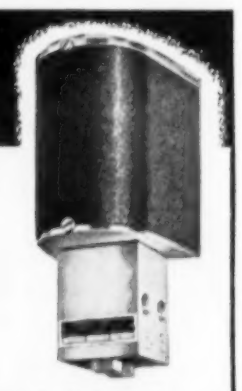
FILL-IN
NAME-PLATES
QUICKLY *with*—

THIS IS ONLY ONE OF A FULL LINE OF NAME-PLATE STAMPING MACHINES MADE EXCLUSIVELY BY

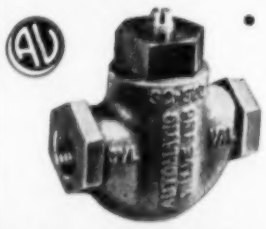
The ACROMARK Company
7 MORRELL ST., ELIZABETH 4, N. J.

If you write maker identify as IEN - 7798

Solenoid VALVES



PILOT VALVES
3-WAY 4-WAY
For operating
Master Valves and
Small Cylinders



Speed Control VALVE
Controls speed of
Air and
Hydraulic Cylinders

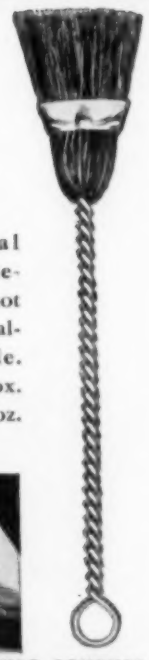
3-Way and 4-Way VALVES
Pilot Operated
Sizes ¼"—⅜"
½" and ¾"
Write for Bulletin

AUTOMATIC VALVE CO.
37421 GRAND RIVER AVE., FARMINGTON, MICH.

If you write maker identify as IEN - 7799

Mechanic's Chip Brush

- Improved Design
- More Efficient
- Longer Lived
- Acid Resistant
- Alkali Resistant
- Lower Priced



● Genuine natural horsehair bristles securely locked, cannot pull out. 12 gauge galvanized wire handle. Packed 2 doz. per box. Price, $3.00 per doz. F.O.B. Rockford.

CLEANING T-SLOTS
APPLYING COOLANT
WRITE FOR CATALOG SHEET

STANDARD AND SPECIAL TWISTED-IN-WIRE BRUSHES
—ONE BRUSH OR A CARLOAD—

SEE YOUR MILL SUPPLY DEALER OR WRITE
Biltwell Brush Co.
225 S. CHURCH ST. • ROCKFORD, ILLINOIS

If you write maker identify as IEN - 7800

REFRIGERATING . . Sub-zero machine to shrink, stabilize, test and store

Source: HUDSON BAY DIVISION
644 W. Washington Blvd., Chicago 6, Ill.

Holds within 2 degrees

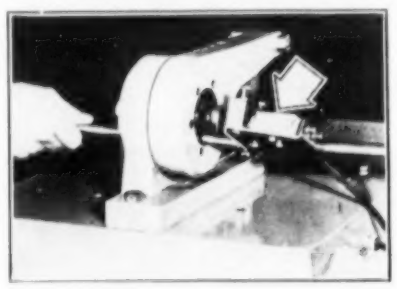
Semi-hermetic refrigerant compressors, employing Freon 12 and Freon 22, operate in cascade to bring temperature down to minus 70 and to minus 95 deg. in the company's new utility cold cabinets. Three sizes measure 17 in. in width of the work chamber by 22 in. in height. Lengths are 15, 30 and 44 in. for 3, 6 and 9 cu. ft. capacities.

The assembly mounts the refrigerating equipment in a compartment closed by one side of the work chamber and by three access panels. The insulated work chamber is lined in liquid tight construction with stainless steel. A counterbalanced lid closes the top. An inclined panel mounts the indicating and control equipment.

If you write maker identify as IEN - 7801

SHEAR . . Motor driven machine for operation at 150 cuts per minute

Source: O'NEIL-IRWIN MFG. CO.
547 Eighth Ave., Lake City, Minn.



Electrically controlled

Sustained operation at high speed is now possible with the company's Rod Parter shearing machine, previously described IEN-3286-53. A new Micro-Matic gage has been added to the machine. It operates in the electric control circuit. Contact with the gage is relayed to a solenoid which trips the machine so the operator can concentrate on feeding stock through the cutting head.

There are ten stock holes in the head for material from 1/16 to ⅝ in. in diameter. The machine is available also to cut square, rectangular, hexagonal and other shapes of bar to specification. The machine lists at $505. The gage adds $95. The gage alone can be applied to new machines and to those that are now in service in the field.

Identify as IEN - 7802

Ultrasonic vibrator, assisted by an abrasive that is flowed on the work, will cut into hardened materials to produce desired tool contours. Intricate shapes can be "vibrated" into glass, tungsten, carbide, hardened steel, precious stones. The work proceeds without heating. The apparatus can be leased from Cavitron Equipment Corporation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7803

Here's why it pays to use
BRISTOL'S SOCKET CAP SCREWS

- easier, faster setting for speedy assembly
- greater holding power, shock and vibration-resistance
- they permit more compact design, with smooth, flush surfaces for safety and streamlining

No delivery problem—adequate stock is always on hand to fill orders without delay. Write today for your free copy of Bristol's 40-page socket screw catalog. A.3.7

BRISTOL'S SOCKET SCREWS
Hex and Multiple-Spline Socket Screws, Cap and Set

THE BRISTOL COMPANY, Socket Screw Division, Waterbury 20, Conn.

If you write maker identify as IEN - 7804

Indus Wheels Solve Wheel Problems

Send for SPECIFICATIONS AND PRICE SHEETS FOR INDUSTRIAL AND JUVENILE

WHEELS

- Semi-Pneumatic, Pneumatic, or Solid Tires
- Tire Load ratings to 925 pounds
- Wheel Sizes 2½" to 16"
- Available with ball, roller or Grafoil bearings
- Baked enamel finish to customers' specifications

INDUS CORPORATION
1817 MADISON AVENUE
INDIANAPOLIS 25, INDIANA

If you write maker identify as IEN - 7805

PORTABLE MIXERS
. . . offer
ECONOMY

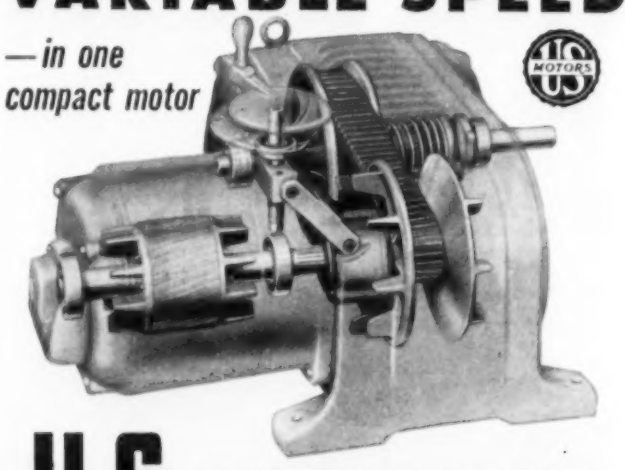
Operating expenses dip to a new low when you choose Portable Mixers from the complete Eastern Series. Available from 1/20 to 5 H.P. with a variety of speeds and motor enclosures. Your small initial investment pays rich dividends in economy.

For complete mixer selection information write for Eastern Catalog 510-B

Eastern INDUSTRIES, INC.
296 ELM ST., NEW HAVEN, CONN.

If you write maker identify as IEN - 7806

Simplified VARIABLE SPEED
—in one compact motor



U.S. *VARIDRIVE*
...miracle motor with infinite speeds

Varidrive accomplishes in a single power unit functions that formerly required many separate cumbersome units. You can instantly vary speed for each load condition; increase production; improve operator's ability; adjust speed to overcome chatter, vibration and pulsation.

Write for new 16-page U. S. Varidrive Motor Bulletin.

U.S. ELECTRICAL MOTORS Inc.
Box 2058, Los Angeles 54, Calif. Milford, Conn.

If you write maker identify as IEN - 7807

If you write maker identify as IEN - 7808

Lightnin® Mixers

Make any open tank a mixing vessel . . .

Mix fluids in a few seconds, anywhere in the plant. Make up chemical solutions . . . mix paint . . . dissolve powders and crystals . . . circulate solvent for cleaning small parts—do hundreds of mixing jobs quickly, thoroughly.

A LIGHTNIN Mixer takes the place of hand stirring, at much lower cost. Just clamp it on any open tank or vessel.

Thousands in use everywhere. Many in service over 20 years. Fully guaranteed.

Thirty models to choose from—⅛ to 3 HP. Electric and air motor types. *Send today for Catalog B-75.*

FOR PERMANENT MOUNTING . . . Top entering propeller mixers for open tanks, closed pressure vessels. Sizes ¼ to 3 HP. Send for Catalog B-103.

FOR BIG MIXING JOBS . . . Turbine and paddle mixers for open or closed tanks. Sizes 1 to 500 HP. Send for Catalog B-102.

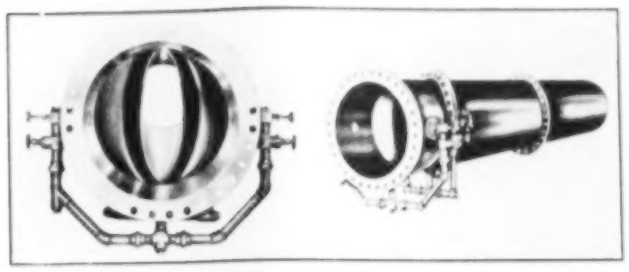
FOR VERY LARGE TANKS . . . Side entering propeller mixers. Sizes 1 to 25 HP. Send for Catalog B-104.

MIXING EQUIPMENT Co., Inc.
124 Mt. Read Blvd., Rochester 11, N. Y.
In Canada: William & J. G. Greey, Ltd., Toronto 1, Ont.
MIXCO fluid mixing specialists

If you write maker identify as IEN - 7810

METER . . Elliptical venturi measures sludge, sewage, trade wastes

Source: SIMPLEX VALVE & METER CO.
6717 Upland St., Philadelphia 42, Pa.



Solids cannot build up

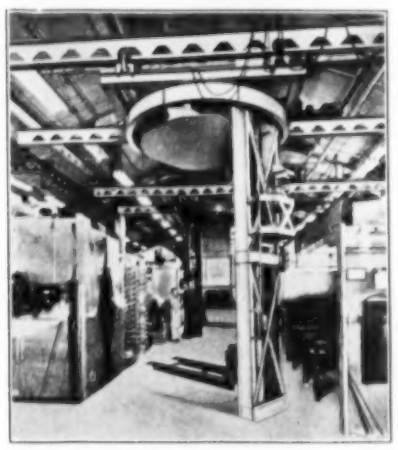
Low-velocity, low-pressure flow of liquids, containing solids, can be measured by this new elliptical venturi in connection with a venturi meter in pipe lines where the possibility of clogging in any passage, other than one of full pipe area, is a problem. The new tube is available for pipe lines measuring 12 to 84 in. in diameter with larger sizes to specification. Operation is standard at 125 or 250 pounds.

The major dimension of the elliptical throat is vertical and equal to the diameter of the circular main section. This permits a horizontal invert or a flat straight bottom that is self-scouring for sediment and solids. The top is straight and flat to prevent accumulation of air or gas that might impede liquid flow and that might enter instrument lines to cause faulty readings. The circular inlet and outlet match existing 125 or 250-lb. mains. Construction is in cast iron, or formed steel plate under certain conditions.

If you write maker-identify as IEN - 7811

CRANE . . Overhead assembly travels, rotates, lifts load forks

Source: WHITING CORP.
15629 S. Lathrop Ave., Harvey, Ill.



Built to order

Work loads can be picked up and moved along an aisle, rotated through a complete circle, raised to a required height and deposited on a shelf or rack by this new Trambeam Stacker crane. The load carrying mechanism rides a pair of bridge beams that travel beneath the main track. The mechanism mounts the forks for specified vertical travel. It rotates them to any position.

The carriage, beneath which the mechanism mounts, can be moved along the bridge beams to either side of an aisle. Work can be entered into or taken out of production equipment. It can be picked up from the floor and stored at either side or removed from storage and returned to the floor line. It can be carried the length of the aisle served by the overhead equipment.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7812

2736 Clinton Avenue • Cleveland 13, Ohio

If you write maker identify as IEN - 7813

Now at New Low Price

T-47 TIME SWITCHES
- **New Low price $11.50***
  (Formerly $13.50)
- **18 month guarantee**
- **Versatile, easy to use**

Contact your nearest G-E sales office. General Electric, Schenectady, N. Y.
* Mfg. suggested retail price. 603-133

GENERAL ELECTRIC

If you write maker identify as IEN - 7814

NEW! DODGE SLIDE-SET VISE

Cut away view

SLIDES IN "NEUTRAL"!
INSTANT ACTION!
GRIPS CONVENTIONALLY!
FULL POWER!

● Entirely new in principle, with patented fast slide action that speeds work, reduces operator fatigue, saves wear on parts. All the power of a heavy conventional vise (weighs 58 pounds). Jaw slides in "neutral" before you lock it by turning handle in conventional way. No tedious "spinning" in and out. No-Pinch handle protects against blood blisters. Every Dodge Slide-Set pays dividends in greater efficiency and production. *Write now for free Bulletin.*

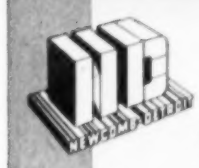
Dodge Manufacturing Corporation, 600 Union St., Mishawaka, Indiana

DODGE
of Mishawaka, Ind.

If you write maker identify as IEN - 7815

NEWCOMB-DETROIT

PIONEERS IN ENGINEERING, MANUFACTURING & INSTALLING OF



INDUSTRIAL OVENS
•
SPRAY BOOTHS
•
PARTS WASHERS
•
DUST COLLECTORS
•
HEAT and AIR SYSTEMS

For Bulletins and Quotations, Wire, Write or Call—
NEWCOMB-DETROIT
5757 Russell St., Detroit 11, Mich.
TR 3-2100

ESTABLISHED 1912
- DETROIT DIVISION
- GRAND RAPIDS DIVISION
- NEWCOMB INDUSTRIES, LTD., WINDSOR DIVISION

If you write maker identify as IEN - 7816

INSURE Proven Quality with JONES PLUGS AND SOCKETS

P-306-CCT Plug, Cable Clamp in Cap.

Jones Series 300 illustrated. Small Plugs & Sockets for 1001 Uses. Cap or panel mounting.

S-306-AB Socket with Angle Brackets.

- Knife-switch socket contacts phosphor bronze, cadmium plated.
- Bar type Plug contacts brass, cadmium plated, with cross section of 5/32" by 3/64".
- Insulation molded bakelite.
- All Plugs and Sockets polarized.
- Metal Caps, with formed fibre linings.
- Made in two to 33 contacts.
- For 45 volts, 5 amperes. Efficient at much higher ratings where circuit characteristics permit.

Ask for Jones Catalog No. 18 showing complete line of Electrical Connecting Devices, Plugs, Sockets, Terminal Strips. Write or wire today.

Send for complete data on this new basic improvement!

Jones HOWARD B. JONES DIVISION
CINCH MANUFACTURING CORPORATION
CHICAGO 24, ILLINOIS
SUBSIDIARY OF UNITED-CARR FASTENER CORP.

If you write maker identify as IEN - 7817

HOW YOU CAN hear better TO TELEPHONE

Loudness of Noise Reduced 50%* Inside a BURGESS-MANNING Acousti-Booth

- Thick walls of sound absorbing material, patented design, and craftsmanlike construction reduce the loudness of noise by 50%*... leaving a zone of quiet for ease of telephoning.
- Doorless construction makes for a light, airy, well ventilated booth ... easy to keep clean ... low maintenance.
- Easy to move ... Suited to any noisy location ... Wall and floor models ... Handsome in appearance.

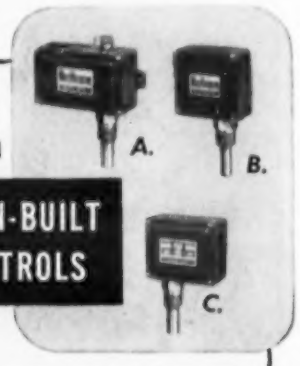
Write for Bulletin A-107

Model 211 Floor Model

* Based on studies by a prominent research organization.

BURGESS-MANNING COMPANY
Architectural Products Division
5970-A Northwest Highway, Chicago 31, Illinois

If you write maker identify as IEN - 7818



A. TYPE B5
B. TYPE C11
C. TYPE C7

COMPACT, PRECISION-BUILT TEMPERATURE CONTROLS

The features of compactness, low cost and direct immersion thermal assembly make the precision-built Type B5 thermostat—an ideal control for use on hot water tanks, boilers and degreasers.

A variation of the Type B5 and designated Type C11 offers shock and vibration-resistant features plus internal adjustment which make it suitable for rugged installations such as internal combustion engines or marine applications.

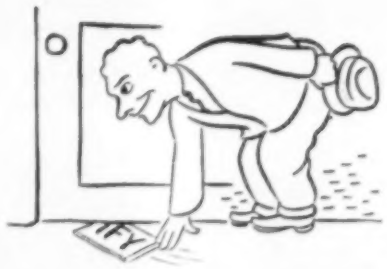
Still another variation, the Type C7 is a small, compact unit for installations where space is limited and the weight factor important.

For complete information on the Type B5, ask for Bulletin #2-1. Specifications for the Type C11 are contained in Bulletin #2-3 and for the Type C7, in Bulletin #2-4. Write for the Bulletin covering the control in which you are interested.

UNITED ELECTRIC CONTROLS COMPANY
80 School Street, Watertown, Mass.

STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

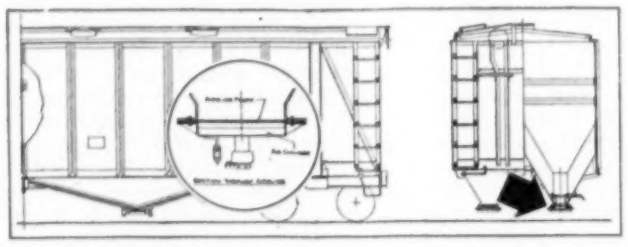
IDEAS FOR YOU



Items of particular interest in the news other than straight new products, development pointing toward the future, unusual procedure to accomplish a point, suggestions for practical action, each to provide ideas for you.

Identify as IEN - 7819

Airslide is a new type of covered railroad hopper car in which General American Transporation has installed Fuller



Airslide conveying ducts, previously described IEN-2-49. The conveyors take the form of a double passage rectangular duct, one passage above the other. When powdered or granular materials are to be discharged from the car, connection is made to a source for compressed air at about one pound pressure. This air flows through the lower passage on the inclines in the car hoppers. It moves upward through a porous membrane separating the two passages. The air "floats" the materials in the upper passage until they become free flowing and move by gravity to the discharge opening.

Identify as IEN - 7820

Cigar, cigarette butts, matches, are deposited for safety and cleanliness in a new Dunking Station that is made by Standard Industrial Products Company. The unit consists of an aluminum canister with a slot in the top, a sign and arrangement for floor or wall mounting in plant use.

Identify as IEN - 7821

Diamond dust, sufficient to make into four or five new wheels, is recovered by tying a common cloth sugar bag over the exhaust end of the coolant return line from a grinding machine employing wet diamond wheels. The dust is being recovered by one of the plants of Carboloy Department of General Electric Company, 11167 E. 8-Mile Road, Detroit 32, Michigan. It is mixed with sludge and is returned to the wheel maker who separates it and pays about $1.50 per karat for the dust which otherwise might be discarded.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7822

if it's FLAMEFOIL* It can't Blaze

Approved by all recognized safety authorities

Write us for samples you can test to your own satisfaction. Please specify the approximate weight of duck desired.

RESISTANT to
- FIRE
- WATER
- WEATHER
- MILDEW

Manufactured under Patents Nos. 2,014,176 and 2,299,612 . . . . . others pending.

PHILADELPHIA TEXTILE FINISHERS, Inc.
102 Lafayette St. Norristown, Penna.
PROCESSORS OF FLAME RESISTANT FABRICS

If you write maker identify as IEN - 7823

ITS FELT TIP WRITES ON EVERYTHING!

in BOLD or fine lines

Marking steel drums, tools, parts, pipes, etc. is smooth sailing with the Flo-master Felt-Tip Marker.

The complete range of ten colors in Flo-master Inks permits speedy and accurate identification for assembling, stocking, inspecting.

Flo-master semi-opaque inks — waterproof, non-smudging, fast-drying — are recommended for hard-to-mark surfaces using the KING SIZE Flo-master. For general purpose marking—cartons, cases, etc—use Transparent Inks with POCKET SIZE Flo-master (illustrated).

Contact your supplier or write direct to Cushman & Denison Manufacturing Co., 153 West 23rd Street, New York 11.

Flo-master FELT-TIP MARKER

If you write maker identify as IEN - 7824

You get what you set...

Added Evidence that

Everyone Can Count on VEEDER-ROOT

Set the predetermining wheels for any run you want. Then, when the counting wheels reach the pre-set number, an electrical contactor makes or breaks the circuit to light a light, ring a bell, or trigger a stop-motion. Yes, this V-R Predetermining Counter is an efficient variable control for *many* types of stop-motion. Short runs and over-runs are prevented on a wide range of machinery, from coil winders to textile looms. Now, figure out how *you* can use this Cost-*Count*rolling Counter. Then write:

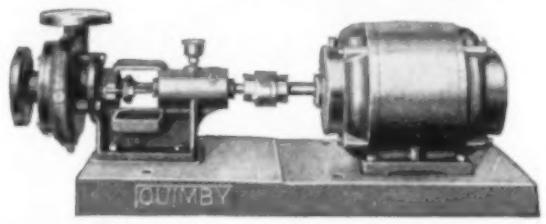
VEEDER-ROOT INCORPORATED
HARTFORD 2, CONN.

If you write maker identify as IEN - 7826

FOR PROCESS AND MEDIUM DUTY CHEMICAL SERVICE

dependability and economy are assured

with this Warren-Quimby Type "G" Pump



This Warren-Quimby Pump is designed to give both dependable and thoroughly economical satisfaction in process industries and chemical plants having semi-critical requirements. It has proven its merit conclusively whenever correctly applied.

Simplicity of design, sturdy bearings, extra deep stuffing box, tapped catchall, together with strong construction throughout the entire rigid assembly, all contribute to long, useful life at moderate cost.

It is available in 1, 1¼, 1½, 2 and 3 inch discharge sizes. Capacities up to 400 GPM—heads up to 240 feet.

SEND FOR BULLETIN WQ-213 giving Specifications, Selection Chart, etc.

IEN-4

WARREN PUMPS

WARREN STEAM PUMP COMPANY, INC. WARREN, MASSACHUSETTS

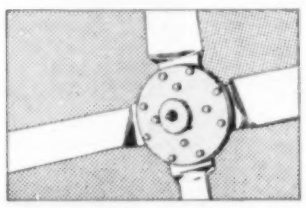
If you write maker identify as IEN - 7827

NEW ROBBINS & MYERS INDUSTRIAL FAN

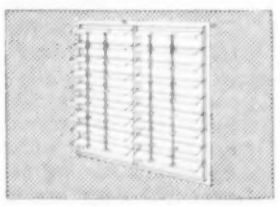
does heavy-duty cooling at low cost!

5 sizes 24" to 48" 5400 to 36000 CFM.

This new fan cuts heavy-duty cooling and ventilating costs to the bone! It's built for heavy-duty propeller service, yet prices start as low as $160.00 (24" size)! You get more power per dollar! New "gull-wing" blades, combined with an improved air inlet, set new highs in efficiency. Installation is easy, maintenance costs low. Consider the money-saving advantages of this new fan for your industrial, commercial or military needs. Check the enclosed inquiry slip now!



"Gull-Wing" Blades—Sharp change in pitch near center of blades promotes uniform pressure velocity.



Automatic Shutters—Available for every size fan. Shutters open when fan is on, close when it's off.

- Direct drive reduces maintenance costs
- "Gull-Wing" airfoil blades for uniform pressure and added strength
- Square steel welded frame forms easy-mounting panel
- Aluminum alloy blades—non-rusting, non-crystallizing, non-overloading, non-sparking
- Heavy-continuous-duty motor. Ball bearings permanently lubricated and sealed (Information on explosion-proof motors available on request)
- Automatic shutters to fit all fan sizes
- Streamlined air inlet for greater efficiency

SEND THE INQUIRY SLIP TODAY!

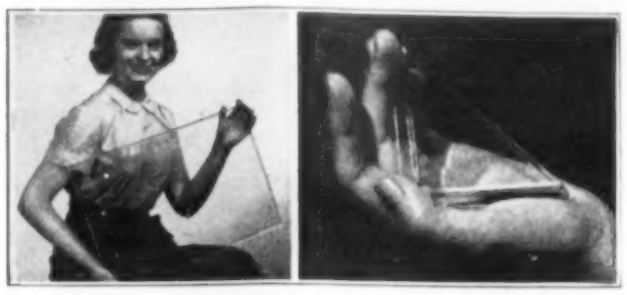
ROBBINS & MYERS FANS for 1953

Robbins & Myers, Inc., Fan Division
387 So. Front St., Memphis 2, Tenn. IN-73

IDEAS FOR YOU—Continued

Identify as IEN - 7829

Manufacture has started on the new TwindoWeld double glazed window in which the two glass faces are fused glass-



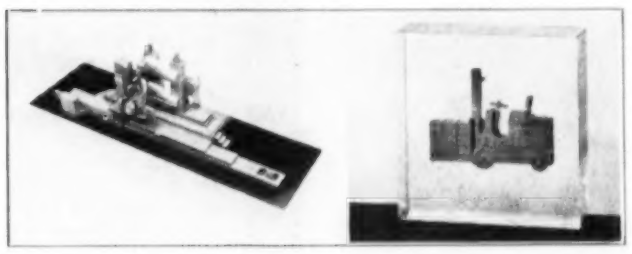
to-glass all the way around. There is no other sealing or bonding material. Pittsburgh Plate Glass Company, 634 Duquesne Way, Pittsburgh 22, Pa., makes the announcement. The window is made of two layers of ¼-in. glass separated by a 3/16-in. air space. This space is evacuated and filled with dry air. The window is assembled as a single thickness of glass. Sizes range to 50 by 62 inches.

Identify as IEN - 7830

Mulch-Vac is an engine driven sweeper, originally designed to pick up leaves in the Fall. It is made by Atwater-Strong Company in Atwater, Ohio. When the operators at Pittsburgh's municipal airport were faced with a tough job of picking up litter left by the port passengers and visitors, someone thought of that sweeper. Now it is in operation at the airport seven days a week, six hours a day, picking up peanuts, popcorn, paper, bags, cups, cigarette butts, candy wrappers.

Identify as IEN - 7831

Illustrated are two examples of scale models that have been made on special order by F. Ward Harman Associates, 253



New York Ave., Halesite, N. Y. One is a machine for Pratt and Whitney, the other is a Yale and Towne truck embedded in a lucite block. Harman can make them any way you order them. The company also can supply complete plant layouts in two or three dimensions.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7832

NEW! REVOLUTIONARY!

Cycle Numbering and Marking ROBOT

Automatic multiple marking unit . . . installs on production line. Prints in cycle: dates, code numbers, serial numbers, groups of numbers in combination . . . in various positions . . . on products, cans, containers, packages, cards, etc. *Write for specification sheet and catalog.*

Mounted on platform with automatic slide for multiple numbering of work cards.

WM. A. FORCE & COMPANY, INCORPORATED
216 NICHOLS AVENUE, BROOKLYN 8, N. Y.

If you write maker identify as IEN - 7833

M&M GIANT KEYSEATERS

M & M Giant Keyseaters, built in a wide range of sizes, speedily and accurately cut internal keyways or splines in the bores of pulleys, gears, fly wheels or any other machine part. Special fixtures and cutters are available for unusual shaped keyways and taper work. Send us your problems today.

MITTS & MERRILL 68

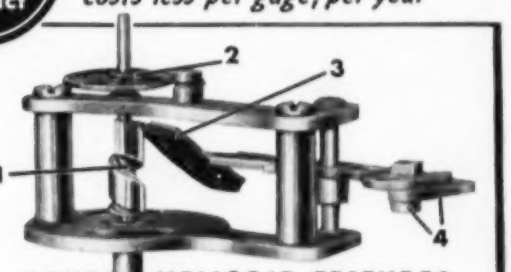
1014 South Water • SAGINAW, MICH.

If you write maker identify as IEN - 7834

an ACCO product

HELICOID

The gage that retains its original accuracy longer, lasts longer, costs less per gage, per year



FOUR HELICOID FEATURES

1. Stainless Steel Helicoid Roller (no gear teeth)
2. Stainless steel hair spring
3. Long Life Cam (no gear teeth)
4. Corrosion-resistant link and screws

• HELICOID GAGES, which do not have gear teeth to wear out, are made in a full range of pressures . . . in various sizes and shapes, with black, white and phosphorescent faces. For wall or stem mounting, flush or panel mounting, or flangeless. No finer gages are made. Helicoid Gages cost less in the long run.

Write today for the Helicoid Gage catalog

ACCO

HELICOID GAGE DIVISION
AMERICAN CHAIN & CABLE
929 Connecticut Avenue • Bridgeport 2, Connecticut

HELICOID Pressure • Vacuum GAGES

If you write maker identify as IEN - 7835

HOW TO SPEED Drum Handling and Save Money

Exclusive! American Drum and Barrel Cradles are designed for one-man handling.

Exclusive! American's disappearing patented loading bar adds speed and safety.

Exclusive! American's Semi-knocked-down packaged units save shipping costs and warehouse space.

Clip coupon and mail today.

THE AMERICAN PULLEY COMPANY

4240 Wissahickon Ave, Phila. 29, Pa.

Complete line of Pressed-Steel Hand Trucks • Steelite® Industrial Wheels • Drum King Hand Truck

Gentlemen:
Please send me more information on American Drum and Barrel Cradles.

Name _____
Firm Name _____
Address _____
City _____ Zone _____ State _____

If you write maker identify as IEN - 7836

ALUMINUM LOUISVILLE

STAGES *20 Inches Wide*
PLANKS *12 Inches Wide*

Light weight durable Contractor's Equipment designed for heavy duty service. Made of extruded aluminum rails and rungs securely riveted with the Louisville Safe Weight method for strength and serviceability. Aluminum channel decking ensures light weight — knurled surface provides sure footing.

ALSO COMPLETE LINE OF LADDERS
SEE YOUR DEALER OR WRITE US

LOUISVILLE LADDER COMPANY
1101 W. Oak St. — Dept. 2A — Louisville 10, Ky.

If you write maker identify as IEN - 7837

THE BIG ONE

This Pilot Light Assembly was first made to accommodate the *S-11 lamp* and was intended for use in the cabs of great diesel locomotives.

THE LITTLE ONE

The miniaturization program on defense products required the development of this *sub-miniature* light. It is used on communication equipment and aircraft. Midget flanged base bulbs to fit are rated 1.3, 6, 12, and 28 volts.

Dialco HAS THE COMPLETE LINE of INDICATOR and PANEL LIGHTS

Samples to suit your own special conditions and requirements will be sent promptly and **without cost**. Just outline your needs. Let our engineering department assist in selecting the **right lamp** and the **best pilot light** for YOU.

Write for the Dialco HANDBOOK of PILOT LIGHTS

Foremost Manufacturer of Pilot Lights
DIALIGHT CORPORATION
60 STEWART AVENUE, BROOKLYN 37, N. Y. HYACINTH 7-7600

If you write maker identify as IEN - 7839

SHEARING . . Hydraulic tool is assembled with pump on floor stand

Source: MANCO MFG. CO.
Grove & West, Bradley, Ill.

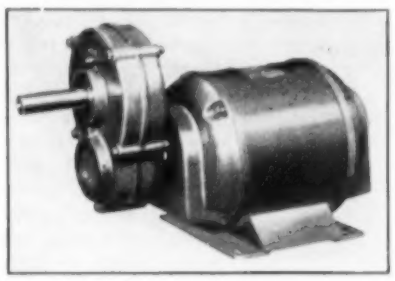
Fast clean cut

Flat bar stock to ½ by 2 in., or channels to $\frac{3}{16}$ by 2 by $\frac{3}{16}$ in., can be sheared with this new Model 20-339 hydraulic tool. The assembly consists of the power cylinder and shearing head with hose connection to a motor driven pump, a foot operated control and a floor base and support column. Total weight is 128 pounds. The cylinder develops a 30-ton thrust on the shear knives. A hand operated pump can be specified if desired.

If you write maker identify as IEN - 7840

DRIVE . . Speed reducer mounts on motor shaft, rates to 5 hp.

Source: TURNER UNI-DRIVE CO.
3402 Terrace St., Kansas City 8, Mo.



Converts standard motor

Uni-Reducer Model 3R3 is a new speed reducer that mounts directly on a motor shaft and is held in position by a suitable torque arm to hold the output shaft in stationary position. Application can be made on motors rating 1 to 5 hp. at 1,800 rpm. and 1 to 3 hp. at 1,200 rpm. The reducer is also available as a complete unit with the company's high torque motor. Reduction ratio is about 3 to 1.

Identify as IEN - 7841

Red Rider is a new flag holder to secure at the rear of pole trucks riding the highway. It is made of malleable iron and has a chain, tension spring and locking lever. The flag measures 15 by 18 inches and is bright red drill cloth. The 20-in. staff fastens securely in its malleable iron socket so the flag rides upright. It is by Industrial Products Co., 2801 N. Fourth St., Philadelphia 33, Pa.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7842

USE JOMAC®

ARMORKOTE WORK GLOVES

ARMORKOTE Gloves — Jomac Cloth with plastic-coated palm and fingers. Widely used in handling steel and sheet metal, rough and finished castings, heavy machinery and machine parts; concrete block, bricks, lumber and structurals, and for general handling.

ABRASION RESISTANT • POSITIVE GRIP • OUTWEAR LEATHER

Write for new Jomac catalog and samples

C. WALKER JONES CO., PHILADELPHIA 38, PA.

If you write maker identify as IEN - 7843

ONLY TRI-LOK OPEN STEEL FLOORING

Gives you all these Service Features!

★ ★ ★

Can be fabricated from a variety of metals

FREE CATALOG
Write today for Bulletin QK-1102-4

Locked-in Strength
Cross bars are locked in place under 1600 tons pressure. This assures permanent rigidity and a flush top surface.

Clinch-Lock Cross Bars
Bent-over bars lock assemblies into permanent integrated panels.

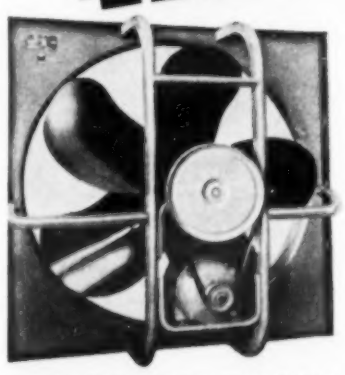
Self Cleaning
Better than 80% open area assures self cleaning.

DRAVO CORPORATION
National Distributor for THE TRI-LOK COMPANY
Dravo Building, Fifth and Liberty Aves., Pittsburgh 22, Pa.

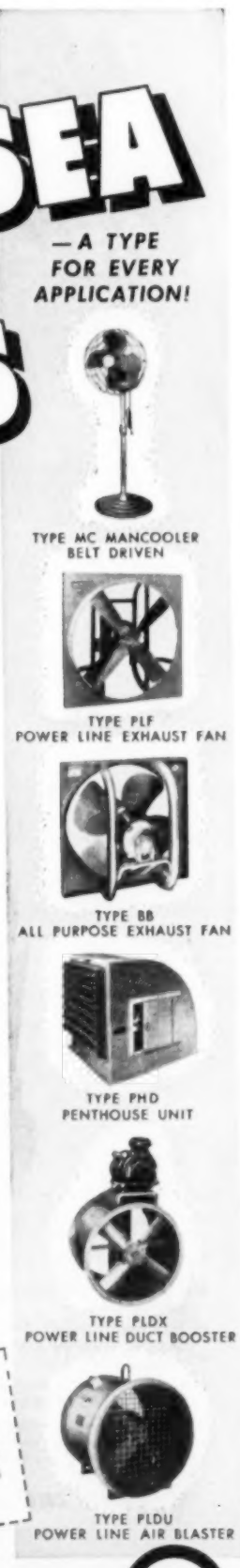
If you write maker identify as IEN - 7844

INCREASE your production with efficient– CHELSEA INDUSTRIAL FANS

— A TYPE FOR EVERY APPLICATION!



CHELSEA TYPE IND EXHAUST FAN
For factories, mills, theatres, schools, hotels and churches. Features belt drive with ball bearing motor and fan shaft. Sizes from 24" to 72".



STEP-UP OUTPUT and quality of workmanship, reduce industrial accidents and employee fatigue with proper ventilating and cooling equipment. CHELSEA Fans remove excessive heat, fumes, dirt, dust and grit, also dead stale air. 30 models, in over 200 sizes, are available, and each fan or blower is especially engineered and tested for its recommended applications. All ratings are certified by P.F.M.A. test methods to insure proper performance. Check on your ventilating requirements, now.

NEW CATALOG No. 400 now available!
Complete data and specifications on fans and blowers for every industrial and commercial application—address requests to Dept. L7.

PROPER VENTILATION IS AN INVESTMENT!
Look for this Symbol of Quality . . . →
← Look for this Seal of Certified Ratings

CHELSEA FAN & BLOWER CO., Inc.
PLAINFIELD, NEW JERSEY

If you write maker identify as IEN - 7846

Engineered Air Regulation

KENDALL MODEL 30

Precision Air Pressure Regulator
AVAILABLE ¼" or ⅜" N. P. T.
RANGES 0-10, 30, 60, 100 PSIG
Send for BULLETIN 9523

FIRST TRUE HIGH PRECISION AIR PRESSURE REGULATING VALVE AT NEW LOW COST

FEATURES:
☆ Perfect Balance — complete immunity from upstream pressure changes ☆ Large Flow Capacity (35CFM) — automatic relief — flow compensation ☆ Small Physical Size ☆ Removable Stainless Steel Valve Trim ☆ Deep Convolution Constant Area Diaphragms made by our own Bellofram Division ☆ Aircraft Quality materials and finishes ☆ Adaptable to all types of mounting ☆ New Low Unit Cost

APPLICATIONS:
☆ *Instrument service — internal and external*
☆ *Pneumatic gauges* ☆ *Paint sprayers* ☆ *Machine shop use*
☆ *Diaphragm and cylinder air loading*

KENDALL CONTROLS CORPORATION
144 MOODY STREET WALTHAM 54, MASS.

If you write maker identify as IEN - 7847

USE STRONG* STRAINERS -for *better* protection!

For steam, air, water and gas, STRONG'S new "Y" type strainer is ideal for the protection of steam traps, reducing valves, temperature controls, air control equipment, pumps, etc.

A HIGH-QUALITY, LOW-COST STRAINER!

★ **Monel Screen**—Mesh cloth in sizes ¼" to ⅜", larger sizes standard with .027 perforations. Self-centering guides prevent crushing.

★ **Semi-steel Body**—For rugged service. Sizes ¼" to 3". For steam pressures to 250 psi, cold pressures to 400 psi.

★ **Easy Installation**—New V-shaped gripping lugs on inlet and outlet bosses—may be easily installed with any type wrench.

CAST STEEL "Y" STRAINER

Available for pressures to 600 psi, screwed and flanged. Sizes ¼" to 4".
Send for Catalog 68-S today!

*Reg. Trade Mark

STRONG, CARLISLE & HAMMOND COMPANY
1392 West 3rd Street
Cleveland 13, Ohio

ANUM METL Reg. Trade Mark

OTHER STRONG STEAM SPECIALTIES

No. 070 Small Trap

80 Series Trap

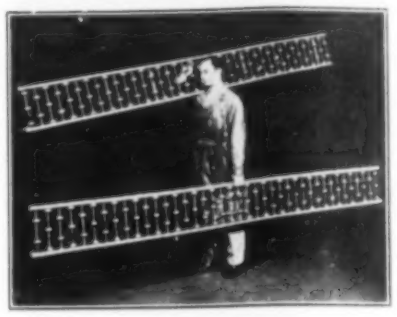
"T" Type Strainer

STRONG

If you write maker identify as IEN - 7849

CONVEYING . . Wheel type sections, aluminum frame, 5 and 10 ft. length

Source: SPEEDWAYS CONVEYORS INC.
1244 Niagara St., Buffalo 13, N. Y.


They carry easily

Weight is about one-third less than for the same size sections made of steel in this new aluminum frame, wheel equipped, gravity conveyor. Load capacity is about 85 lb. per foot. Three widths are 12, 15 and 18 inches. Two section lengths are 5 and 10 feet. The channel sides are 2½ by 1 inch. Wheels and axles are steel. Wheels have ball bearings.

If you write maker identify as IEN - 7850

CONSTRUCTION . . Plastic-plywood combination presents smooth faces

Source: GEORGIA-PACIFIC PLYWOOD CO.
270 Park Ave., Room 9-I, New York 22, N. Y.

Plastic provides good paint base

GPX Green designates a new combination of plywood and face panels on both sides made of smooth green cellulose fiber. The combination contains about 22 per cent of resin by weight. The surface coating is permanently combined with the plywood core. It is hard and resistant to abrasion and moisture absorption. It is practically impervious to hair line checking and grain raising. It will not delaminate from the plywood after severe prolonged weathering.

Panels are available in standard sizes of 3 by 8 ft. and 4 by 8 feet. Thickness ranges from 5/16 to 1⅝ in. with the plastic overlay weight of about 68 lb. per 1,000 ft. per side. Exterior uses include walls, lapped siding, gable ends, blinds, shutters, road signs. Interior uses are represented by room walls, counter display cabinets, toys, children's furniture.

If you write maker identify as IEN - 7851

PLIER . . Adjustable design sets jaws in several opening steps

Source: CHAMPION DE ARMENT TOOL CO.
553 Main St., Meadville, Pa.

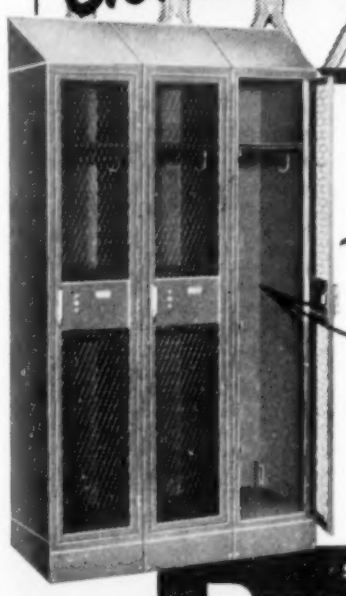
Forged steel

Number 420 designates new design in the Channellock plier, originally developed in 1933. The new unit consists of the two pivoted members and the pivoting screw and nut. The screw serves as the center of rotation but does not take the gripping load. This is taken by a curved tooth on the member carrying the pin and matching curved recesses located at intervals across a slot in the matching member. Jaw opening depends on the user's selection of the jaw and slot positions.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7852

Keeps Clothes Fresher! penco



"AIR-LITE" LOCKER

The steel locker that "breathes" through ¾" mesh door openings—an exclusive Penco feature!

- MAXIMUM NATURAL VENTILATION
- DAMP CLOTHES DRY FASTER
- CONTENTS CAN BE INSPECTED—WITHOUT OPENING DOOR
- SAFE, PILFER-PROOF STORAGE
- PENCO QUALITY CONSTRUCTION
- SINGLE AND DOUBLE TIER TYPES—IN A WIDE RANGE OF SIZES

Send for complete locker catalog

85TH YEAR OF SERVICE

PENN METAL *Corporation of Perma*
80 OREGON AVE., PHILA. 48, PA.

If you write maker identify as IEN - 7853

LAMPS ...via Graybar

Free Lamp Catalog gives selection data on wide range of G-E lamps.

There's no substitute for proper lighting where visual comfort is the first consideration . . . just as there's no substitute for G-E incandescent lamps in commercial, residential or industrial aplications.

Illustrating and giving basic selection data, this handy reference bulletin will help you select the right lamp from among the thousands of incandescent G-E lamps available via Graybar. For any lighting need, Graybar offers the widest selection of lighting units and incandescent, fluorescent or mercury lamps available from any single source — you can be sure of impartial recommendations.

In addition, Graybar Lighting Specialists will be glad to help you plan efficient lighting systems either indoors or outdoors. (Note: if you are a quantity user of lamps, be sure to discuss the advantages of our lamp contract service with your local Graybar Representative.) *Graybar Electric Company, Inc. Executive Offices: Graybar Building, 420 Lexington Avenue, New York 17, N. Y.* 314-127

Call Graybar *first* for . . . Everything Electrical GraybaR

If you write maker identify as IEN - 7854

with Veelos on your machines
v-belt replacement takes up to 90% less time

ACTUAL in-plant records prove that Veelos v-belt can be installed *and operating* in up to 1/10th the time regularly needed to do the same job using endless v-belts.

Matched sets of Veelos are quickly made up in your own stockroom or at the machine by just coupling the correct lengths for the particular drive. Even outboard bearing drives are no problem. You *never* remove these outboard bearings, because Veelos is installed by simply coupling it around the shafts and running it onto the sheaves.

VEELOS THE LINE V-BELT

Write for a copy of the Veelos Data Book. It's fully illustrated and packed with useful engineering data. We'll be glad to send a copy to you.

MANNHEIM MANUFACTURING AND BELTING CO.
651 Manbel Street, Manheim, Pa.

Adjustable to Any Length • Adaptable to Any Drive

If you write maker identify as IEN - 7855

25-TON LIFT
4.8 m.p.h. shuttle speed

Koehring 304 Cruiser Crane combines 25-ton lift capacity with rubber-tired mobility . . . has 4.8 m.p.h. shuttle speed. One man controls both travel and crane operation from cab. Standard 30-ft. boom extends to maximum 110 ft. with jib . . . has power-boom lowering. Send for catalog.

Other Koehring sizes from 7½ to 79½ tons
KOEHRING CO.
Milwaukee 16, Wisconsin

KOEHRING *Cranes*

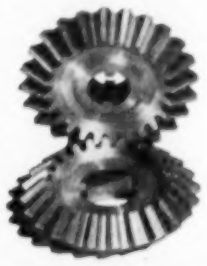
If you write maker identify as IEN - 7856

D.O.James

Established 1888

GEARS For INDUSTRY

SINCE 1888 . . . We have been making many types and sizes of gears for industry. Vast plant facilities of the most modern gear cutting equipment assure capable handling of your *production* or *special* gear requirements.



HELICAL and BEVEL GEARS—From 1" to 60" in diameter and from 24 DP to 1½ DP.
SPUR GEARS—Size range from ¾" to 150" in diameter. 32 DP to ¾ DP.
HERRINGBONE GEARS—Made from 1" to 60" in diameter and from 10 DP to 1½ DP.
SPIRAL BEVEL GEARS—Made from 1" to 30" in diam. and 24 DP to 1½ DP.
WORM GEARS — Made from 1" to 100" in diam. and from 24 DP to 1 DP.

YOUR GEAR INQUIRIES WILL RECEIVE IMMEDIATE ATTENTION
D.O.JAMES GEAR MANUFACTURING COMPANY
1140 W. MONROE ST. • CHICAGO 7, ILL.

If you write maker identify as IEN - 7857

Years Ahead **IN DESIGN**
Wheeler
FLO-LINER

Combines high efficiency and smart styling with unique maintenance ease and economy. When detached, louver assembly is automatically suspended below channel by supporting chains — allows quick, easy access to operating equipment — 2 lamp and 4 lamp units for both single pin and bi-pin lamps!

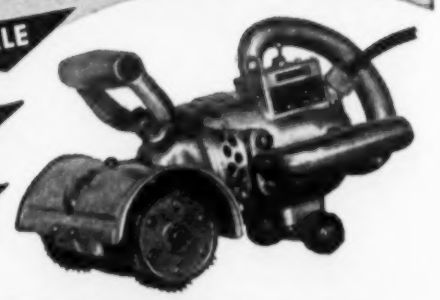
Write for special **FLO-LINER** *bulletin*

Wheeler REFLECTOR COMPANY
275 CONGRESS STREET — BOSTON 10, MASS.
Distributed Exclusively Through Electrical Wholesalers

If you write maker identify as IEN - 7858

ZIP OFF

SCALE
RUST
PAINT
with



AURAND CLEANING TOOLS

AURAND rotary chipping action quickly, easily, *thoroughly* removes scale, paint, rust and other accumulation from any hard surface. Renewable cutter heads and fool-proof cutting depth adjustment allow the unskilled operator to produce perfectly clean surfaces. Available in electric or pneumatic models. Write today for further information on cleaning your iron, steel, brick, concrete, and other hard surfaces.

Get the time and money-saving facts

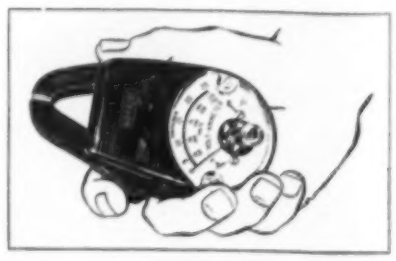
GET THE TIME AND MONEY-SAVING FACTS
WRITE TODAY TO DEPT. 649

AURAND MFG. & EQUIP. CO.
2643 Colerain Avenue • CINCINNATI, OHIO

If you write maker identify as IEN - 7859

METER . . Volt-ammeter opens to apply around ac. conductor

Source: PYRAMID INSTRUMENT CO.
628-32 Merrick Road, Lynbrook, N. Y.



About $20

Amprobe Junior is a new design in the company's line of ac. volt ammeters. It is available in four ranges, minimum at 0 to 10 amp. and 0 to 125/250 volts, maximum at 0 to 100 amp. and 0 to 125/250 volts. The trigger operated jaws are opened and allowed to close around a conductor, insulated or bare, to measure current. Test leads are supplied to clip to a circuit to read voltage. Accuracy is within 3 per cent of full scale.

The mechanism is a 3-in. d'Arsonval design with an Alnico 5 magnet. The probe jaws are insulated. The instrument has been subjected to a 3,000-volt breakdown test.

If you write maker identify as IEN - 7860

WHEEL BLOCK . . Made of cast steel to hold a truck or trailer in place

Source: CALUMET STEEL CASTINGS CORP.
1634-38 Summer St., Hammond, Ind.

Can carry your name

Retractable design has been added to the Casteel wheel block, previously described IEN-3522-53. The new unit is a pivoted assembly of front and back plates with a handle operated trip lever. Depressing the handle retracts the front plate from contact with a vehicle tire so there is no possibility of jamming between the two. The rear plate has a gripping surface where it contacts the ground so it will hold securely on wet surfaces and on ice.

Identify as IEN - 7861

Paper cups, issuing from a forming machine, are blown through transparent Tenite pipes to a packaging department several hundred feet away. The conveying equipment was made and installed by Busada Manufacturing Corporation, 58-95 54th St., Maspeth 78, N. Y. The cups ride overhead, out of the way. They are not marked by movement through the smooth plastic interior on the way to the packaging department.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7862

In this **TUFFLEX** *kit!* **You may find your key**

Here's your opportunity to see—feel—and test Tufflex—the modern cellulose cushioning fiber! Product designers in many industries are finding Tufflex the key to product improvement. Tufflex combines the virtues of a soft, fleecy material with amazing strength and toughness. It die-cuts with clean, true edges—doesn't shred or pull apart. Tufflex is also efficient as an insulation or as a sound deadener. Send for your FREE Tufflex kit today! Write Wood Conversion Company, Dept. 126-73, First National Bank Building, St. Paul 1, Minnesota.

Keep your eyes on **TUFFLEX***

*Reg. U. S. Pat. Off.

Guaranteed by Good Housekeeping

CELLULOSE CUSHION PADDING

If you write maker identify as IEN - 7863

SKINNER Solenoid Valves

for air & hydraulic cylinders
fluid shut-off
diaphragm operated equipment
coolant control

M2 BRONZE BODY

"M" SERIES pilot-operated Skinner Valves have extremely fast action, and large capacity on air, inert gas and liquid applications. All internal metal parts are stainless steel or brass. Soft seals prevent leakage — operate in any position — rubber coated, nylon fabric diaphragm for long life — port size ½" or ⅜", orifice ⅜" — power consumption, 10 watts — continuous duty.

M2 is two-way, normally closed, 5 to 150 p. s. i., weight 3 lbs. **M3** is three-way, normally closed, normally open, or directional flow, 20 to 150 p.s.i., weight 3¾ lbs.

M3

Write for Bulletins No. 493 & 494

Skinner **ELECTRIC VALVE DIV.**
THE SKINNER CHUCK COMPANY
110 Edgewood Avenue, New Britain, Connecticut

If you write maker identify as IEN - 7864

RECEIVING...PRODUCTION... WAREHOUSE...SHIPPING... MAINTENANCE

every department can use the CM CYCLONE

HIGH-SPEED — HEAVY DUTY — ALUMINUM ALLOY
CHAIN HOIST

CAPACITIES: ¼ TO 10 TON

● Help your men get lifting jobs done quicker, safer, with less physical effort. Increase labor dollar return. PORTABLE—Carry with one hand. EASY OPERATION —Less hand chain pull. LOW HEADROOM—Highest possible lift. HERC-ALLOY flexible welded load chain. Lifetime lubrication. ***More CYCLONE Hoists are in use today than any other hoist in their class.***

LIFTS 1 TON WEIGHT 35 LBS.

CYCLONE CATALOG NO. 145
Illustrates, describes and prices all models. Sent on request or ask your CM Distributor.

CHISHOLM-MOORE HOIST CORPORATION
(Affiliated with Columbus McKinnon Chain Corporation)
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
SALES OFFICES: New York • Chicago • Cleveland

If you write maker identify as IEN - 7865

ILLINOIS STEAM SPECIALTIES

Replace Obsolete Steam-Wasting Units With Illinois Specialties

Equip your radiators with smooth-acting Illinois Supply Valves and sensitive, steam tight Illinois Thermo Traps.

Improve system operation by replacing thermostatic drip traps with Illinois Float and Thermostatic Traps wherever rapid elimination of condensate is essential.

Illinois Float and Thermostatic Traps are made in three Series to meet a wide variety of applications and for operating ranges from 50 pounds pressure to 25 inches vacuum.

Write for Bulletins

Investigate! Compare! Try Illinois Traps on your worst service and be guided by results!

ILLINOIS ENGINEERING COMPANY
INCORPORATED 1900
RACINE AVENUE AT 21ST STREET • CHICAGO 8

If you write maker identify as **IEN - 7866**

Turn your products out faster, more economically in continuous straight-line production with a Wissco Belt. To order, write or call our nearest sales office.

THE COLORADO FUEL AND IRON CORPORATION—Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION—Oakland, California
WICKWIRE SPENCER STEEL DIVISION—Atlanta • Boston • Buffalo
Chicago • Detroit • New York • Philadelphia

1430

WISSCO BELTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION CF&I

If you write maker identify as **IEN - 7867**

COMPARE THE RESULTS you can get from these FREE samples of amazing DRIPRINT paper!

SAMPLES

Write on your company letterhead for stock samples, sent without obligation.

DIETZGEN DRIPRINT TRADE MARK

Better, ready-to-use direct positive prints are yours in seconds with DRIPRINT

Whether you want prints with black, blue, red or sepia lines, you'll get better results with DRIPRINT. Made directly from your translucent original without a negative, these superior Dietzgen ammonia-process prints on paper or cloth give you denser, sharper lines on pure white backgrounds every time.

Lines are fade-proof, too, even in strong sunlight, oil, perspiration. And these prints are tough, fight repeated folding, wear, tear. Thus DRIPRINT is permanent two ways.

You can draw or write on DRIPRINT with pen, pencil or water color; and print lines can be removed instantly with DRIPRINT Eradicator Fluid. So notations, additions, alterations are easily made. Try DRIPRINT.

EUGENE DIETZGEN CO. • Chicago • New York • San Francisco
New Orleans • Pittsburgh • Los Angeles • Philadelphia
Washington • Milwaukee • *Dealers in All Principal Cities*

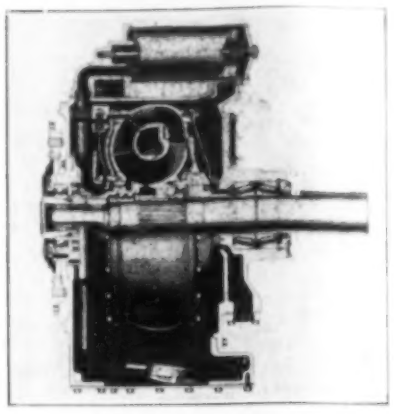
DIETZGEN EVERYTHING FOR DRAFTING SURVEYING & PRINTMAKING

Free Samples!

If you write maker identify as **IEN - 7869**

DRIVE . . Hydraulic transmission, two stage, engine unloading action

Source: TWIN DISC CLUTCH CO.
1308-12 Preston St., Rockford, Ill.



To specification

Model S, with free-wheeling reaction or stator blades, and Model SD, with an added dump valve, are new designs in the Twin Disc line of hydraulic torque converters. They replace mechanical clutches on industrial engines. Both are available for specific installations in mobile and stationary equipment. Torque multiplication is maximum at 4 to 1, at stall conditions, with progressively increasing engine speed during acceleration and uniform pull-down under load. The stator blades completely unload the engine, at high-speed no-load conditions, so the engine can continue to operate at minimum fuel consumption and heating.

Model SD is the same as Model S, with addition of the dump valve, to release the oil from the converter circuit and to return it when action is again required. Both designs have connections to pipe the oil to a cooler and back to the circuit. Both are available with a spider input connection and straight or flanged output to match the equipment.

If you write maker identify as **IEN - 7870**

HEAT TREATING . . Induction heater to anneal rims of air brake chambers

Source: REEVE ELECTRONICS INC.
613 W. Lake St., Chicago 6, Ill.

Built to order

The operator of this new Reevelec Model 16H induction heating machine places work pieces on the machine's power driven index table. They are carried into heating position by the table, are held there for a predetermined interval, depending on their size, then are discharged to one side. The heating interval, combined with indexing, is 5 to 12 seconds.

The work table and the 25-kw. electronic generator are interlocked for automatic sequencing. The generator operates on 220 or 440-volt 3-phase input. It requires about 49 kva. at 90 per cent power factor. Floor space is 58 by 42 in. for the generator housing, 36 by 27 in. for the work table. Weight combined is about 3,000 pounds. List price for the tooled assembly is about $16,000.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 7871**

Use Mutual LP-GAS Furnaces and Torches

REDUCE MAN HOURS CUT COSTS

For every industrial heating job LP-GAS will do it faster, better and cheaper. Reduce man hours and increase your profits with this modern fuel available everywhere. No pumping or priming. Starts instantly and won't blow out. Equipment is safe, lightweight, easy to handle. Mutual's 20 years' experience is built into every furnace, torch, heater and burner. Insist on MUTUAL—superior in performance and workmanship. You'll find our service superior too. Write us today about your heating or melting job. You'll receive our recommendation bulletin and prices by return mail.

Mutual LIQUID GAS EQUIPMENT CO., Inc.
3600 WEST IMPERIAL HIGHWAY, INGLEWOOD, CALIF.

If you write maker identify as **IEN - 7872**

FOR A FAST, FIRM TWINE TIE . . . GERRARD'S B.S.M. TWINE SEALER

Fully Automatic SEALS WITH METAL

● Speed up the tying of light bundles and packages—and get a firmer, stronger bundle, too—by installing a Gerrard Twine Sealer in your shipping or mailing department.

Gerrard's new Twine Sealing Machine is fully automatic. Just put the bundle in place and step on the pedal. Then the twine is wrapped once around the bundle, drawn to a pre-set tension, fastened with a metal seal and cut. Additional ties can be made as quickly as the bundle can be moved into position. Bundles are limited to a 14" width and a 9" height.

The metal seal assures you of a firm, tight tie. Bundles stay neat and compact until the twine is cut. A reel from which 1500 metal seals will be formed can be put in the machine at one time.

The Gerrard B.S.M. Twine Sealer can be accurately adjusted to accommodate the size of twine best fitted for your needs.

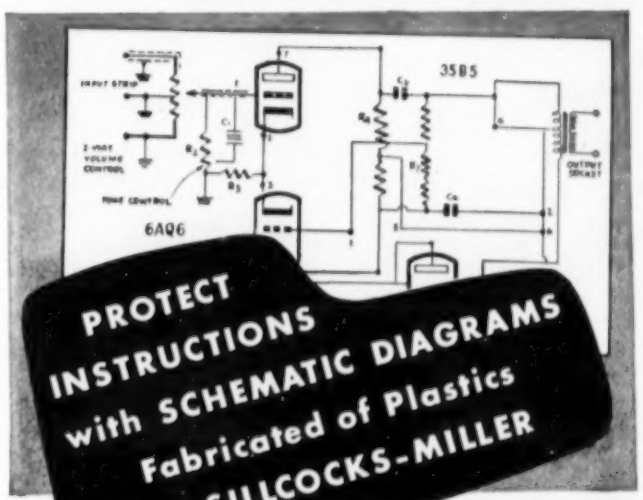
SEND FOR FREE B. S. M. FOLDER

Gerrard Steel Strapping Division, United States Steel Corporation
4701 South Richmond St., Chicago 32, Ill.

USS **GERRARD STEEL STRAPPING**

UNITED STATES STEEL

If you write maker identify as **IEN - 7873**



PROTECT INSTRUCTIONS with SCHEMATIC DIAGRAMS Fabricated of Plastics by SILLCOCKS-MILLER

Diagrams reproduced on plastics and laminated for protection can be depended on to keep their sharp definition and clean appearance. They are durable, easy to read, free from soil and damage.

Sillcocks-Miller specialists can help you create schematic diagrams to meet your needs exactly.

Write for details and send drawings for recommendation.

The SILLCOCKS-MILLER Company
Pioneers in Plastic Fabrication since 1910

27 West Parker Avenue • Maplewood, N. J.

If you write maker identify as **IEN - 7874**

SIGNODE

STRAP containers with these TOOLS

The most inexpensive way to protect shipping containers in transit is to reinforce them with steel strapping. Shown here is *Signode's* popular two-piece strapping tool outfit—the ST Stretcher, and the 3820 Sealer. They are sturdily but simply made, and their use can be learned easily by anyone old enough to work. These tools are designed for tensioning and sealing strapping around cartons, wood boxes, crates, bundles and packages of varying sizes and shapes. For detailed information about these tools and their use, write Signode Steel Strapping Co., 2611 N. Western Ave., Chicago 47, Illinois.

THIS SEAL MEANS SIGNODE SECURITY IN SHIPPING

If you write maker identify as IEN - 7875

SCHRAMM
SMALL INDUSTRIAL COMPRESSORS

Positive controlled force-feed oiling to every wearing surface.

Main Bearings—Tapered roller bearings. Crankshaft supported at both ends.

Larger radiation fins.

SIZES—½ HP to 5 HP. **MOUNTINGS**—Horizontal or vertical air receivers or on base. **DRIVES**—Electric motors or gasoline engines.

WRITE FOR CATALOG GC-52.

SCHRAMM, INC.
The Compressor People
WEST CHESTER • PENNSYLVANIA

If you write maker identify as IEN - 7876

TYPE M
ELECTRIC HOIST

for ruggedness and simplicity, long life and low maintenance. A real material handling cost saver. Available in various suspensions and speeds; in capacities 1000 to 6000 lbs.

Ask for Bulletin 668

DETROIT HOIST & MACHINE CO.
48th year—Designers & Manufacturers of Hoists and Cranes
8249 Morrow St. • Detroit 11, Mich.

If you write maker identify as IEN - 7877

GET
SIMPLIFIED CONSTRUCTION
SUPERIOR PERFORMANCE
FREEDOM FROM TROUBLE

IN THE MODERN STEAM TRAP

COE DRAINATOR

Moving parts, in conventional steam traps, are subject to corrosion, pitting, sticking and failure.

The trap must then be dismantled and repaired. Production is interrupted. Costs go up.

Drainator — the modern steam trap — avoids these difficulties by eliminating the parts which cause them. It has not a single moving part but is operated by properties in the steam. A fluctuating water level in the gauge glass signals that the trap is functioning properly.

Write for the complete and interesting story now.

The COE MANUFACTURING CO.
504 BANK ST. PAINESVILLE, OHIO

If you write maker identify as IEN - 7878

LIGHTING . . Fluorescent fixtures and ballasts to operate on power lines

Source: WAC ENGINEERING CO.
33-37 St. Clair St., Dayton 2, Ohio

Circuits to 440 volts

WacLine trade names new fixture designed for end to end mounting, in multiples of 2 ft., for operation from the power lines in a plant. The fixtures can be surface, suspended, or recess mounted and used plain or with reflectors. Slimline lamps start instantly on circuit closing.

Application permits an economical combination of lighting and power distribution circuits by minimizing requirements for copper and conduit and by improvement in power factor. Ballast loss per lamp is within 5 watts. The ballasts dissipate very little heat and so are suited for recess mounting.

If you write maker identify as IEN - 7879

SWITCH . . Foot operated design, press to close, release to open circuit

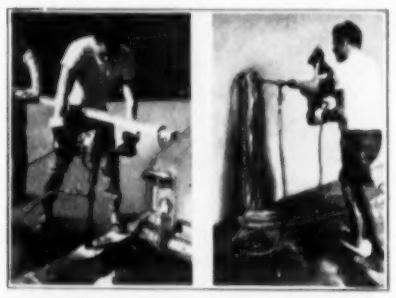
Source: LECTROMATIC DEVICES CORP.
3343-47 Addison St., Chicago 18, Ill.

Frees operator's hands

Contact rating is 15 amp. on 110-volt ac. for this new foot operated switch. The mechanism is enclosed in a metal housing fitted with an anti-skid pad on the bottom and a rubber tread on the top. Overall dimensions are 4¼ by 3 by 1 inch. Finish is black. The switch is equipped with an 8-ft. rubber covered cord and combination plug socket.

Identify as IEN - 7880

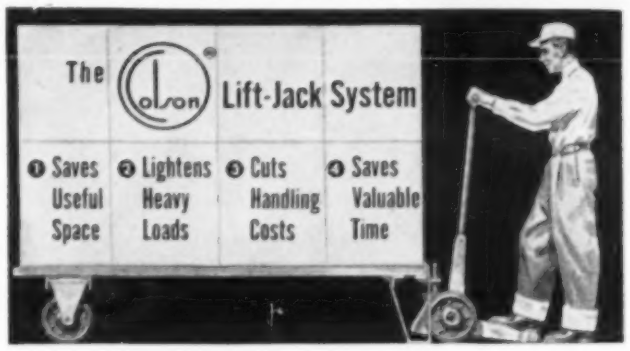
Water feeds through the hollow spindle and the center of a core drill to lubricate, cool and flow cuttings away when you use a new attachment and the Koncrete Kore drill made by Tilden Tool Mfg. Co., 207-11 Los Molinos, San Clemente, California. A side connection takes a standard garden hose fitting to connect to a source of water and direct it through the hollow spindle to the cutting edges.



All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7881

If you write maker identify as IEN - 7882



Through production, in and out of storage, on and off freight cars, the COLSON Lift-Jack System saves you man-hours, money and valuable space.

Many other cost-saving materials handling devices are produced for you by COLSON, including hand trucks, platform trucks, drum and barrel trucks, and precision built, roll-easy wheels and casters for every type of industrial application.

Your nearest COLSON engineer can tell you how modern materials-handling can speed up your operation and save you money. Write us or consult the yellow pages of your local phone book for the COLSON representative near you. *Write Today for new Catalog*

THE COLSON CORPORATION
ELYRIA, OHIO
CASTERS • LIFT-JACK SYSTEMS • INDUSTRIAL TRUCKS

If you write maker identify as IEN - 7883

THE HALSEY W. TAYLOR CO., WARREN, OHIO

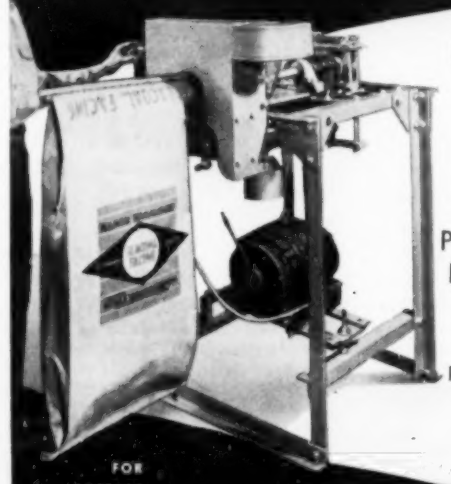
Halsey Taylor
DRINKING FOUNTAINS

F-27

If you write maker identify as IEN - 7884

Investigate the 1953
BLACK DIAMOND AUTOMATIC

valve bag packer



Designed to pack dry granular or powdered free-flowing materials

★

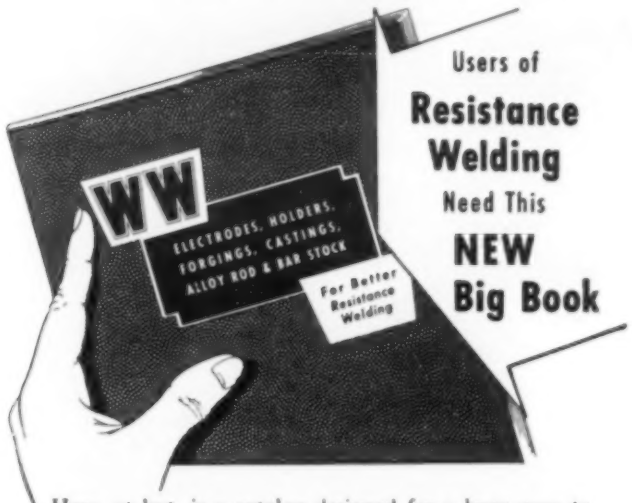
Push-button control
Moderately priced
Easy to install
Lowest maintenance costs
Performance guaranteed

★

FOR FURTHER INFORMATION WRITE TO **BLACK PRODUCTS COMPANY**
13513 S. CALUMET AVE. • CHICAGO 27, ILL.

MANUFACTURERS SINCE 1912

If you write maker identify as **IEN - 7885**



Users of
Resistance Welding
Need This
NEW Big Book

Here, at last, is a catalog designed for a busy man to use—good, clear illustrations with contours and dimensions plainly shown—well-organized listings with prices right alongside the specifications.

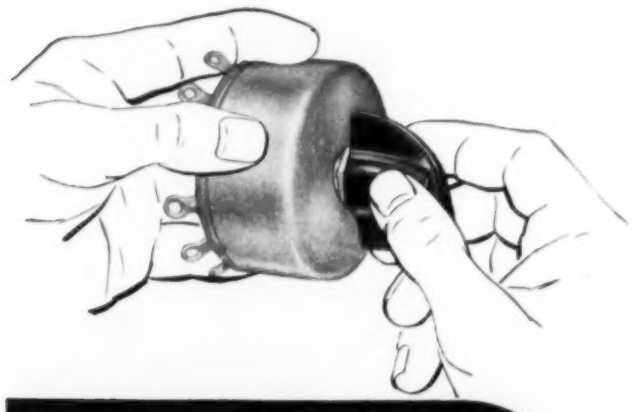
Nearly 700 resistance welding electrodes are listed for almost any welding job. The catalog also lists water-cooled holders of every style and size, seam welding wheels, alloy rod and bar stock.

If you do resistance welding, you need this book. Write for your free copy today.

WEIGER-WEED W·W 22804D

Weiger-Weed & Company, Division of Fansteel Metallurgical Corporation, 11644 Cloverdale Avenue, Detroit 4, Michigan

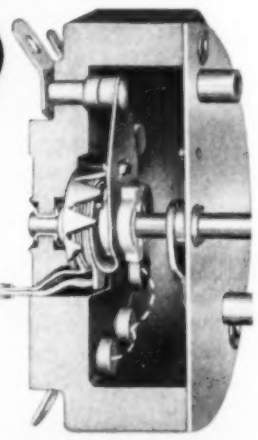
If you write maker identify as **IEN - 7886**



OHMITE®
A-C, POWER-TYPE, ROTARY TAP SWITCHES

ARE PREFERRED FOR SPECIAL DESIGN FEATURES

HERE'S WHY!



1. CERAMIC CONSTRUCTION provides perfect insulation, unaffected by arcing. Mechanism enclosed (except on Model 111).

2. EXTREMELY COMPACT, but with many taps. Convenient terminals. Back-of-panel mounting.

3. SELF-CLEANING SILVER CONTACTS provide low surface resistance, high conductivity. No contact maintenance.

4. "SLOW-BREAK, QUICK-MAKE" action is ideal for A-C operation.

5. "DEAD" SWITCH SHAFT, insulated from load by ceramic driving hub.

5 SIZES
10 amp—150 v
15 amp—150 v
25 amp—300* v
50 amp—300* v
100 amp—300 v
*150 volts between taps

Write on Company Letterhead for Catalog 40

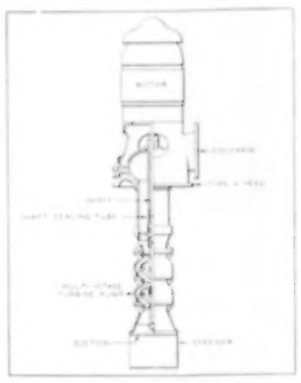
OHMITE MANUFACTURING CO.
4814 Flournoy St., Chicago 44, Ill.

Be Right with
OHMITE
RHEOSTATS • RESISTORS • TAP SWITCHES

If you write maker identify as **IEN - 7888**

PUMP . . Multistage turbine, 20 to 2,000 gpm., 10 to 550 feet

Source: JOHNSTON PUMP CO.
3270-74 E. Foothill Blvd., Pasadena 8, Calif.



Carried in stock

Unit-Line is a new pump made up of standardized units in graduated sizes held in stock. A pump can be specified within the overall capacity range and shipped completely assembled and crated. Drive is by a direct connected electric motor rating ¼ to 200 hp. in drip proof, totally enclosed or explosion proof frame. The pump is suited to handle non-corrosive fluids at temperatures to 250 deg. F. A feature is in the shaft sealing tube and special bearing that eliminate need for a packing gland.

If you write maker identify as **IEN - 7889**

TRUCK . . Conversion equipment feeds liquid petroleum gas to engine

Source: CLARK EQUIPMENT CO.
Battle Creek 49, Mich.

Detailed data upon request

A fuel tank, vaporizer regulator and an air gas carburetor constitute new conversion equipment for application on the company's Trucloader, Clipper, Carloader, and Dynatork engine driven trucks to operate on liquid petroleum gas. The equipment applies following modification of the engine to operate on a compression ratio of 8 to 1 and after a cold intake manifold has been added, since the fuel is already a gas when it enters the manifold. Spare tanks are available for standby use to keep a gas supply on hand.

If you write maker identify as **IEN - 7890**

SWITCH . . Foot operated, 20 amp., on 110 volt ac. circuit

Source: GENERAL CONTROL CO.
1210-B Soldiers Field Road, Boston 34, Mass.

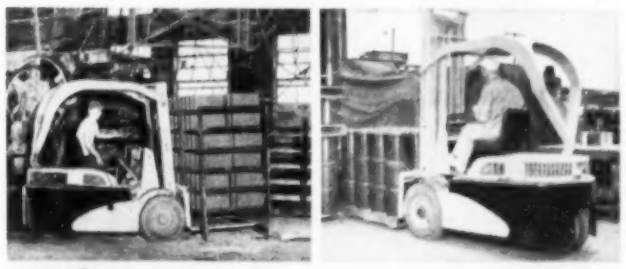
For machine control

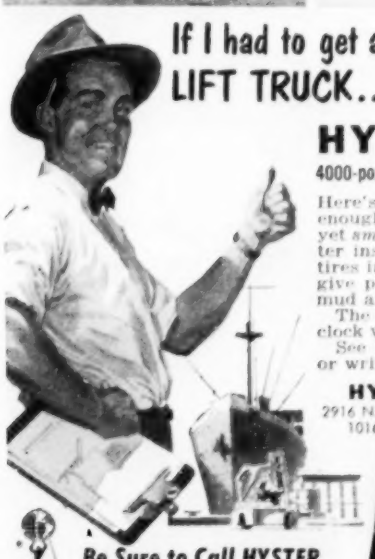
Feature in the construction of this new Type-MA single-pole double-throw switch is the removable housing end. It provides quick access to the enclosed mechanism. Operation is by an actuating treadle built into the top of the cast housing. Required foot pressure for switch operation is negligible.

Mounting is by means of holes in the housing at the two sides. The circuit enters through the removable part of the housing in connection with a BX connector or a rubber grommet. The treadle is finished in red paint. The housing is gray.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 7891**





If I had to get along with only one LIFT TRUCK...I'd choose the

HYSTER YT-40
4000-pound Capacity • Pneumatic Tires

Here's why: It's rugged and fast enough for *big* outside jobs—yet *small* enough for close-quarter inside work. Big pneumatic tires iron out the rough spots—give plenty of traction through mud and snow.

The YT-40 works around the clock with minimum attention.

See it at your Hyster dealer, or write for Catalog 1016 to:

HYSTER COMPANY
2916 N. E. Clackamas, Portland 8, Ore.
1016 Myers Street, Danville, Ill.

THERE'S PROFIT IN **HYSTER POWER**

Be Sure to Call HYSTER Before You Buy ANY Lift Truck!

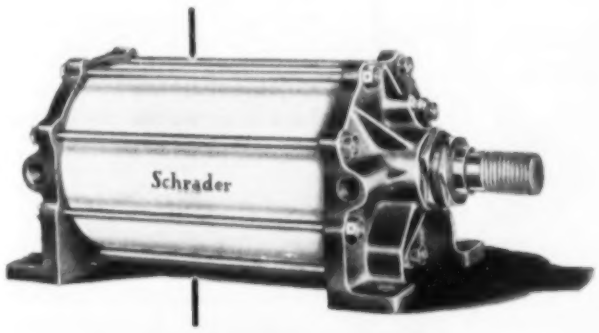
HYSTER COMPANY • FOUR FACTORIES: Portland, Oregon; Peoria, Illinois; Danville, Illinois; Nijmegen, The Netherlands

If you write maker identify as **IEN - 7892**

The Best Muscles in Your Plant

This compact, powerful Schrader Air Cylinder can eliminate costly mechanical movements . . . tiring, slow manual labor . . . space wasting mechanisms in many spots on your production machines. Leg mounted cylinders, shown here, will deliver a powerful push, pull, or push and pull, parallel to the mounting surface.

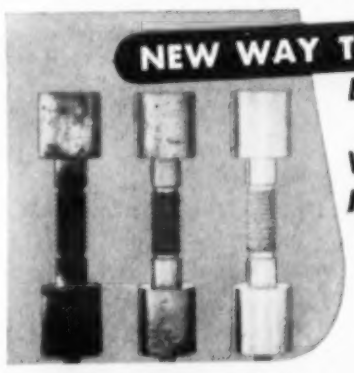
Cylinder action can be controlled manually or automatically. Speed, force and cycle time are all readily controlled by Schrader operating valves and accessories. Schrader cylinders are available in any type of mounting up to 8 inch bore in any stroke. Full details are in the Schrader catalog. Write for it today.



A. SCHRADER'S SON
Division of Scovill Manufacturing Company, Incorporated
458 Vanderbilt Ave., Dept. D-34, Brooklyn 38, N.Y.

If you write maker identify as **IEN - 7893**

If you write maker identify as **IEN - 7894**



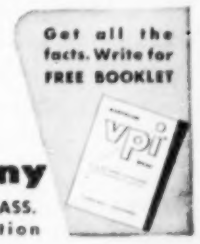
NEW WAY TO STOP RUST
Easily! Quickly! Without Slushing
MARVELLUM VPI® WRAP
Paper coated with a Volatile Corrosion Inhibitor

Without VPI — With VPI

Look at these steel samples — they tell the story. After 3 years of unsheltered storage outdoors in an industrial marine atmosphere, only the VPI wrapped sample on the right is still bright and clean. The untreated sample on the left was wrapped in plain kraft, the middle one treated with a good rust-preventive oil and wrapped in Grade A barrier material. All were overwrapped with kraft-asphalt paper. *Your* steel or aluminum parts can be equally well protected from corrosion. VPI, developed for government use during the war, is now available to everyone. Economical, easy to use, VPI can save you time and money.

Marvellum VPI is available in sheets, envelopes or special containers. Marvellum has complete facilities under one roof for designing, producing and coating VPI Wraps. Also makers of a wide range of other barrier materials to meet your needs for product protection. Distributors in all major cities.

Get all the facts. Write for FREE BOOKLET



The Marvellum Company
22 APPLETON STREET HOLYOKE, MASS.
First and Foremost in VPI Protection

If you write maker identify as IEN - 7895

ACE-HIDE

For handling corrosive solutions. Tough, resilient, practically indestructible. Made of a new synthetic rubber-base material called ACE-HIDE, unaffected by most acids and alkalies. Drip-proof spout pours easily directed stream. Graduated scale inside pail. ORDER NOW from your rubber goods distributor, or write us.

ACE rubber and plastic products

AMERICAN HARD RUBBER COMPANY
93 Worth St., New York 13, N. Y.

If you write maker identify as IEN - 7896

THE "SEWER MASTER"

OSTER pipe and bolt threading machines have helped maintenance men keep the lid on threading costs for sixty years. Now the new "Sewer Master" is ready to help cut sewer cleaning costs.

The Oster "Sewer Master" is a light, low-cost machine that weighs less than 100 lbs. It clears obstructions 100 ft. or more from the sewer entrance. A snap switch reverses its powerful motor so the "snake" can be revolved in either direction assuring easiest removal of toughest obstructions. Large rubber tired wheels make the "Sewer Master" easy to move up and down stairs and to the job. And the price is right.

The "snake" is securely held and revolved by the "Sewer Master" at any convenient distance from the sewer entrance by revolving chuck jaws. Complete control of its action is maintained through a convenient control lever. Cutting tools to remove roots, grease, chips, and many other obstructions are easily attached to the "snake".

For a free, fully illustrated booklet that gives complete facts about the new Oster "Sewer Master" fill in the coupon below and mail it to us. We will send your copy by return mail.

THE OSTER MANUFACTURING COMPANY
2053 East 61st Street • Cleveland 3, Ohio
Send me full facts about the New Oster "Sewer Master".
Name_____
Company_____
Address_____

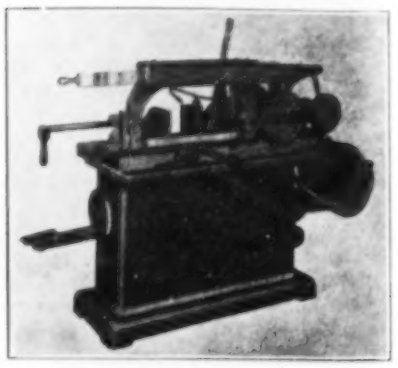
FACTS about the OSTER "SEWER MASTER"

1893 • CELEBRATING 60 Years Leadership in the Threading Industry • 1952

If you write maker identify as IEN - 7898

SAWING . . Power hack saw takes work to 7 in., variable feed

Source: SALES SERVICE MACHINE TOOL CO.
2361-65 University Ave., St. Paul 14, Minn.



Automatic stop switch

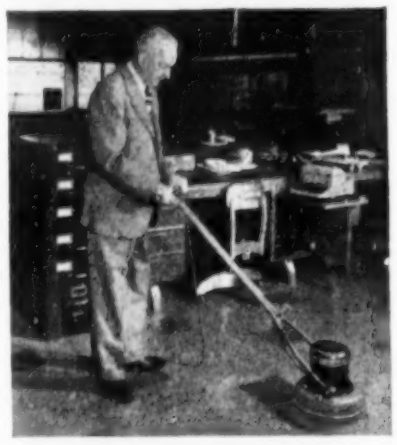
Number 4 is a new machine by the Hy-Duty line. It rates work to 7 by 7 in. as compared with the No. 5 machine and its 9-in. capacity, previously described IEN-12997-52. The work is held in a swivel vise that can be set to 45 degrees. In this position the capacity is to 4 by 7 inches. Two operating speeds are 80 and 140 strokes per minute. They are set by positioning the drive belt on its two-step pulley.

Construction includes an adjustable foot lift to hold the blade frame while loading and unloading, a variable pressure regulator to adjust pressure between 0 and 200 lb. on the blade, clearance lift on the return stroke, adjustable bronze bearings on the saw frame guide bar, built-in coolant pump and tank. Oilite bearings are employed on the rotating shafts.

If you write maker identify as IEN - 7899

CLEANING . . Rotary brush machine to scrub, sand, wax and polish a floor

Source: HILD FLOOR MACHINE CO.
738-42 W. Washington Blvd., Chicago 6, Ill.



Attachments to order

Model K is a new floor machine with a ⅓-hp. motor and 12½-in. brush spread. The brush rotates at 210 rpm. The machine employs a steel base fitted with a non-marking plastic bumper. The handle is steel tube with rubber grips. The switch box is made of aluminum. It is connected through a 30-ft. non-marking grey rubber extension cord and plug.

Power is transmitted from the motor to the brush through a cog tooth belt made of tough rubber and nylon, reinforced with multiple strands of steel cable embedded in the rubber. No lubrication is required. Operation is noiseless.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

Looking for product ideas?
Try the literature reviews, page 74

If you write maker identify as IEN - 7900

If you write maker identify as IEN - 7901

Airlouvers have to fit... you order them that way

Fill any wall opening with one or more weather-tight units tailored for the need . . . *without premium cost*

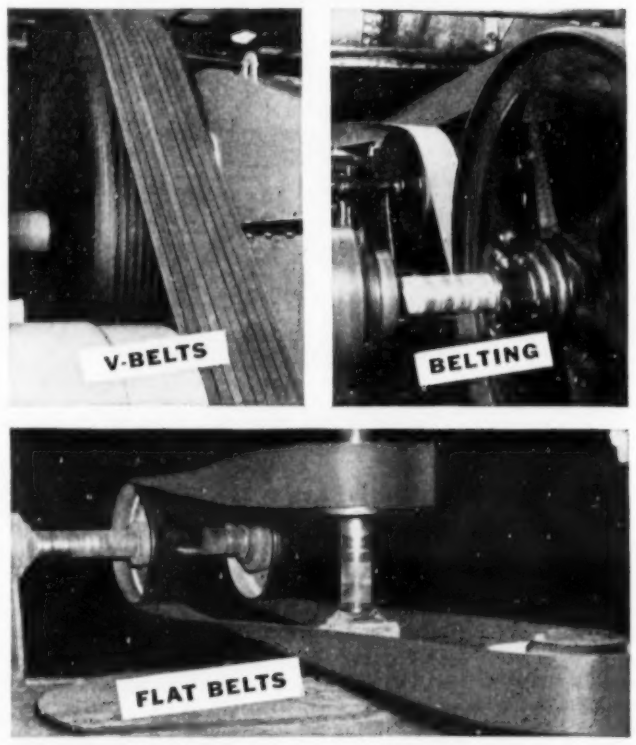
The wide size variation available in Airlouvers — the unique Swartwout louver system — virtually gives you custom-made equipment at economical standard costs. Odd-size units make it easy to fill any size opening with multiples of uniform sections.

Strong formed channel frame houses overlapping blades that assure weather-tightness. Adjustable style Airlouver features positive closing and quick change of blade position. Made in fixed-blade style also. Write for Bulletin ALO-B.

18511 Euclid Avenue, Cleveland 12, Ohio
The Swartwout Co.
Roof Ventilators and Ventilating Louvers
POWER PLANT EQUIPMENT • PROCESS INDUSTRY CONTROLS

If you write maker identify as IEN - 7902

INSTANT SUPPLY!



A Coast-to-Coast Chain of Warehouses

"U.S." is really geared to deliver. You actually get immediate delivery or shipment – thanks to your local "U.S." jobber backed by the strategically located "U.S." District Sales Offices and transcontinental chain of warehouses. The "U.S." Line is complete, including V-belts, sheaves, flat belts and belting for any power transmission need.

Every item in the "U.S." Line is famous for durability and for economy in maintenance. Every V-Belt has the unique Equa-Tensil Cord Section which distributes the pull so evenly among the cords that each carries its full share of the load. "U.S." engineers will study your needs for any specialized drives. See your distributor or contact any of our 25 District Sales Offices or write to address below.

MULTIPLE V-BELTS • F. H. P. V-BELTS
SHEAVES • FLAT BELTS AND BELTING
SPECIAL PURPOSE BELTS

U.S. RUBBER — SERVING THROUGH SCIENCE

"U.S." Research perfects it
"U.S." Production builds it
U.S. Industry depends on it

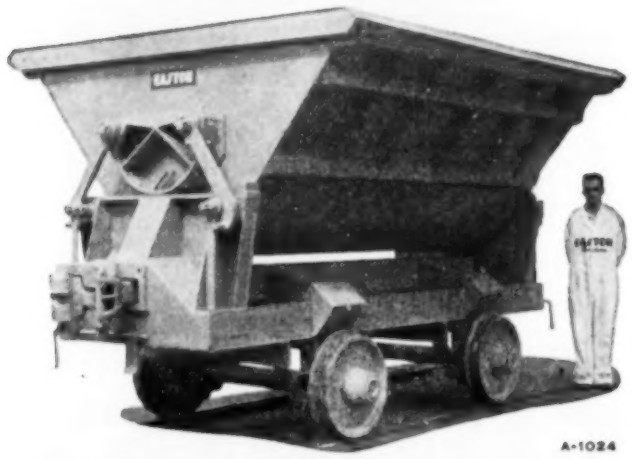
UNITED STATES RUBBER COMPANY
Mechanical Goods Division • Rockefeller Center, New York 20, N. Y.

Hose • Belting • Expansion Joints • Rubber-to-metal Products • Oil Field Specialties • Plastic Pipe & Fittings • Molded & Extruded Rubber & Plastic Products • Protective Linings & Coatings • Grinding Wheels • Packings Tapes • Conductive Rubber • Adhesives • Roll Coverings • Mats & Matting

If you write maker identify as IEN-7904

EASTON

a dependable design and construction service in industrial cars



A-1024

EASTON CAR & CONSTRUCTION CO.•EASTON, PA.

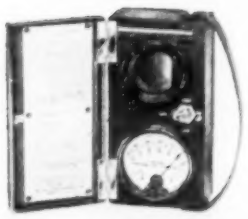
NEW YORK • PHILADELPHIA • PITTSBURGH

If you write maker identify as IEN-7905

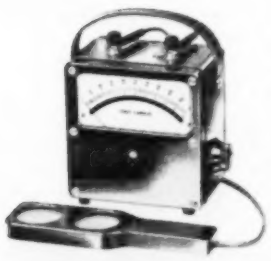
instruments for measuring light

Completely self-contained, permanently calibrated, and color corrected, Weston Light Measuring Instruments are available for practically all requirements in research, factory, office or home. A bulletin giving complete details on all models and on color and cosine correction features is available on request. WESTON Electrical Instrument Corporation, 614 Frelinghuysen Avenue, Newark 5, N. J.

Model 703
Sightmeter or Foot-Candle Meter
The favorite for quick measurements in homes, offices, factories, schools, etc. Calibrated in seeing tasks (Sightmeter) and directly in foot-candles. Available with or without VISCOR® and cosine correction filters.



Model 614 Foot-Candle Meter
Ideal for commercial lighting surveys and general light measurements. Hinge mounted PHOTRONIC® Cell can be tilted to facilitate use. Measures all types of commercial lighting directly. Wide range of light values, with convenient range-changing switch.



Model 756 Illumination Meter
For light measurements requiring a high degree of accuracy over broad ranges. Ideal for research work and for checking other instruments. Corrected for color and Lambert's Cosine Law . . . long mirror scale and knife-edge pointer . . . convenient range-changing switch . . . in sturdy leather case with neck strap.

WESTON *Instruments*

If you write maker identify as IEN-7907

TRUCK . . Hand hydraulic lift for both skids and pallets, to 3 ton

Source: LEWIS-SHEPARD PRODUCTS INC.
190 Walnut St., Dept. R-1, Watertown 72, Mass.

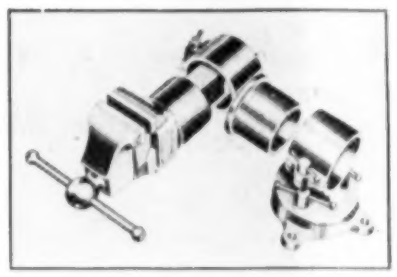
Up for skids

Hinged frame added to the standard JackLift truck, adapts the truck to handle skids and pallets interchangeably. The frame is hinged upward, as shown to the left in the illustration, when the load is on a pallet. It lies in horizontal position above the truck forks for skidded loads. The truck itself is the company's standard construction with sealed hydraulic mechanism.

If you write maker identify as IEN-7908

VISE . . For bench application positions and locks universally

Source: FLEXIVISE CO.
1147 E. Pico Blvd., Los Angles 21, Calif.



Holds any position

Flexivise is a new combination of standard screw operated machinist's vise and a three-plane swivel assembly. It permits positioning the vise jaws universally to meet any work position requirement. The jaws measure 4 in. in width and open to 5½ inches. Each of the swivel movements has a screw locking sleeve clamp that will hold when tightened against any movement.

If you write maker identify as IEN-7909

CLAMP . . Made of wood, cam operated, holds without marring

Source: H V H TOOL & INSTRUMENT CO.
150 Lafayette St., 6th Floor, New York 13, N. Y.

Finger action

Stationary jaw, secured to a beam, and a sliding jaw fitted with a cam operated clamp finger make up this new woodworker's clamp. The movable jaw can be adjusted along the beam to provide grip capacity maximum at 8 inches. List price is $2.50. A cam side-mounting attachment adds $1.00 to the list price named.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-7910

OWN YOUR OWN HEAT-TREATING PLANT

low in cost high in productivity compact in design

here it is in a single unit

Features include:

1. *Heating Furnace with range of 1000° to 2400° F. automatically controlled (12" wide x 10" high x 18" deep).*
2. *Tempering or Drawing Oven is recirculating type. Work is constantly bathed with evenly distributed high velocity and held to constant temperature by automatic control. Alloy steel lined with perforated shelf, has range of 250° to 1100° F. (21" wide x 10" high x 18" deep).*
3. *Furnace and Oven doors equipped with foot treadles.*
4. *Two Quench Tanks for oil and water. By means of double wall construction, oil tank is entirely surrounded by water for cooling oil, thus producing more uniform quenching.*
5. *Automatic electronic type controls.*
6. *Shipped ready to install by simply connecting gas and electric power line.*

A complete line of WALTZ standard or special heat-treating furnaces, using all types of fuels are built to suit your requirements. Write Dept. A for comprehensive illustrated bulletins.

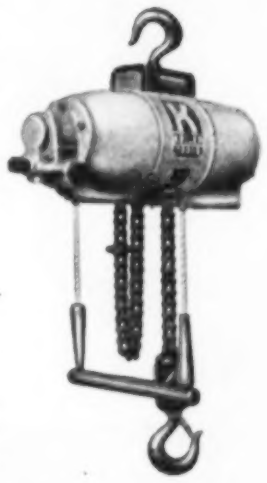
Waltz FURNACE COMPANY
SYMMES STREET • CINCINNATI, OHIO

If you write maker identify as IEN-7911

Here is the most accurately controllable hoist ever devised

THE HOIST WITH fingertip control

KELLER Air Hoist



It is operated by an air valve that you can "crack" as little or as much as you like—from the barest creep to 17 fpm full speed, or any speed between.

Positive displacement piston-type air motors assure positive movement up or down. Centrifugal brake holds load immovable in any position.

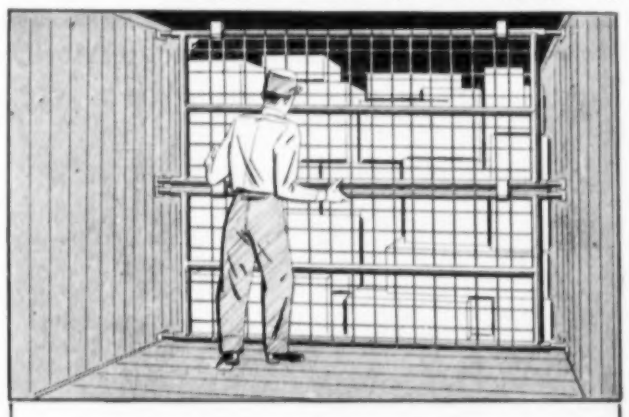
- Can't Burn Out, even when stalled
- Light Weight—1,000 lb air hoist weighs only 30 lb
- Low Maintenance
- Continuous Duty—can be used hours (or days) continuously without shortening motor life

K KELLER TOOLS

Send for illustrated descriptive bulletin and detailed information

Keller Tool Company
GRAND HAVEN, MICHIGAN

If you write maker identify as IEN-7912



How *permanent* Pittsburgh Railroad Bulkheads *pay for themselves!*

When you consider the lumber, straps, anchor plates and other equipment which traditionally have secured LCL rail shipments, you will readily see why these permanent bulkheads easily put in place by 2 men in 2 minutes usually pay for themselves in 20 trips then show a profit forever. Moreover, damage claims virtually disappear. Write to Dept. IEN, Pittsburgh Steel Products Co., Grant Bldg., Pittsburgh 30, Pa.

Pittsburgh BULKHEADS

a product of Pittsburgh Steel Products Co.
subsidiary of Pittsburgh Steel Company

If you write maker identify as IEN-7913

This building saves money 3 WAYS

If you need more space an Armco Steel Building will save you money 3 important ways.

1 Erection can be done by a small crew in a matter of hours. Valuable time is saved because unique STEELOX Panels provide both structural support and finished surface.

2 You also save on maintenance. Armco Steel Buildings are rigid, weathertight, noncombustible and lightning-safe when properly grounded. There is nothing to crack, warp or rot. Should your building be damaged the part is easily replaced.

3 Changing conditions can be met economically with an Armco Building. It can easily be expanded with standard parts, rearranged, or the entire building can be dismantled and re-erected without loss of material.

WRITE FOR THE COMPLETE MONEY SAVING STORY

ARMCO DRAINAGE & METAL PRODUCTS, INC.
1033 Curtis Street • Middletown, Ohio

ARMCO

If you write maker identify as IEN - 7914

Drive out

FOUL AIR

Blow in

FRESH AIR

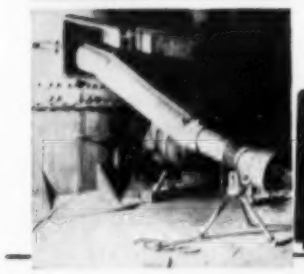
with Coppus Type A Ventilator

Assure greater safety, comfort for workers . . . get greater efficiency.

Drive out dangerous fumes, gases, stagnant or hot air from boilers, cable manholes, tanks, vats and other confined places. *Supply fresh air continuously.*

Send now for further information. Coppus Engineering Corporation, 147 Park Avenue, Worcester 2, Mass.

MANHOLES made safe for workers' entrance within minutes.



BOILER AND TANK INTERIORS cooled by Coppus. Fresh air supplied continuously.

ANOTHER **COPPUS** "BLUE RIBBON" PRODUCT

If you write maker identify as IEN - 7915

ADD COMFORT . . . SPEED PRODUCTION

with Aerovent FAN

MAN COOLING

FANS

Keep your employees cool for more efficient work. Aerovent "Macheta" airfoil fans are efficient and economical.

Certified Ratings — PFMA

Model 39 Mancooler — 2, 4 or 6 blade Sizes 24" to 48"

Other Models: Direct Connected, Extended Shaft, Duct Type, Belt Driven, Pulley Drive. Sizes 12" to 144".

WRITE TODAY FOR ENGINEERING BULLETIN

AEROVENT FAN CO., Inc.

Ash & Brown Streets, Piqua, Ohio

Competent Sales Engineers in Principal Cities

If you write maker identify as IEN - 7916

Directs Light Exactly as Needed as Easily as Pointing your Finger

FOSTORIA

LOCALITES

for Machine Tools, Assembly and Inspection Benches

UL — The Finest of All Localized Lighting Units

MODEL 099-PX-412

Overall length 35½". Three instantly adjustable joints. Reflector accommodates 100 watt or any A-19 or A-21 medium screw base lamp.

$13.28 EACH in pkg. of 4 Single Unit $16.60 ea.

- **All Wiring Fully Enclosed** — completely protected from wear or insulation damage from oils and fumes
- **Adjusta-tension Joints** — tension easily adjusted for freedom of arm movement to suit worker and job
- **Universal Base** — mounts on outlet box or directly on machine or bench. Toggle switch included
- **Baked Enamel Finish** — exterior, Vista Green — Reflector interior, high temperature White

LOCALITE fostoria for Light ON the Job

WRITE FOR COMPLETE CATALOG of Localite models with various type reflectors, arms and bases for every industrial use.

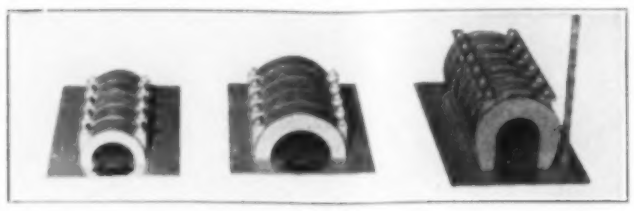
THE FOSTORIA PRESSED STEEL CORPORATION FOSTORIA, OHIO

Localites are available through electrical wholesalers everywhere.

If you write maker identify as IEN - 7917

SEPARATING . . Permanent magnet traps iron in chutes, ducts, on belts

Source: DINGS MAGNETIC SEPARATOR CO. 4738-42 W. Electric Ave., Milwaukee 46, Wis.



Catalog C-1205-A

Model 1-H and Model 2-H represent new designs in the Perma-Plate line of magnets to remove tramp iron from bulk materials. Assembly is on a stainless non-magnetic steel plate that can be hinged into the wall of a chute, duct, bin, or mounted above a belt conveyor. Passing ferrous materials are attracted and held for removal at intervals.

The original Type-A line employed magnet assemblies in three field ranges with capacity to reach out through material depths from 1 to 4 inches. Each of the three were available in 19 standard sizes from 4 to 72 in. in width and in 2 to 8-pole assemblies. Smooth or raised pole faces are selected for given duty. The new magnets increase original capacity as much as 50 per cent.

If you write maker identify as IEN - 7918

PUMP . . Portable rotary design, controlled by a switch on suction side

Source: HYPRO ENGINEERING INC. 402-6 N. Washington Ave., Minneapolis 1, Minn.

Utility design

The rotor of this new pump carries Nylon or Hycar plastic rollers in radial slots the same as the company's Series 4000 and Series 6000 pumps, previously described. The rollers bear outward against the housing to provide the sealing action required for pumping. Assembly is directly on the driving motor shaft. Control is by a switch on the suction side. This switch shuts the pump down is the suction runs dry.

The pump will lift water to 10 ft. unprimed and to 22 ft. after it has been primed. Capacity is to 5 gpm. Maximum head against which the pump will deliver is 30 pounds. Motor rates ¼ hp. for operation on 110-volt ac. The vacuum operated switch connects into the motor circuit. Inlet and outlet for ½-in. hose connection. Weight is 27 pounds.

Identify as IEN - 7919

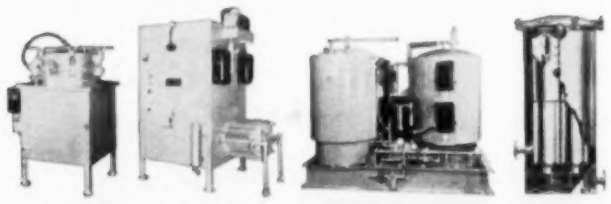
Cylindrical brush, about ¾ in. in diameter, carries Nylon bristles and is fitted with a sliding sleeve. The sleeve locks in three positions to govern effective length of the Nylon portion. Adjusto-Brush is the trade name. It is suited particularly for parts cleaning and utility applications. Graymills Corporation, 3709 N. Lincoln Ave., Chicago 13, Ill., is the maker. One Nylon brush is $2.75.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7920

HILCO LUBRICATING AND INDUSTRIAL OIL MAINTENANCE EQUIPMENT

Saves You MONEY, OIL and MACHINERY



OIL RECLAIMER — PURIFIER, RE-REFINER — HIGH CAPACITY RECLAIMER — FILTER

A COMPLETE LINE OF EQUIPMENT FOR RECLAIMING, FILTERING, PURIFYING AND RE-REFINING OIL.

★ Hilco units are available for continuous or batch operation. You can keep your lubricating and industrial oils clean and recover large quantities of oil at low cost.

Whenever Oil is used it becomes contaminated—must be discarded or conditioned for further use.

There is a HILCO to do This Job for You

Cleans Oil, Reduces Down Time, Increases Production!

★ Tell Us About Equipment You Are Operating and We Will Forward FREE Literature and Recommendations.

OIL PURIFIER DIVISION

THE HILLIARD CORPORATION

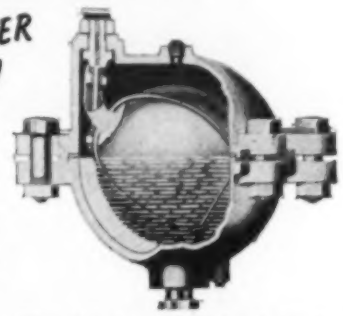
35 W. 4th ST. • ELMIRA, N. Y.

IN CANADA — Upton - Bradeen - James, Ltd. 990 Bay St., Toronto, 3464 Park Ave., Montreal

If you write maker identify as IEN - 7921

GET RID OF AIR ACCUMULATIONS IN PIPE LINES...

A BIG TROUBLE SAVER THAT COSTS YOU LITTLE!



When air lodges at high spots in pipe lines, it reduces the effective area of the pipe, creates a friction head, lowers pumping capacity, and may result in serious water hammer!

Simplex Air Release Valves bring you a sure, efficient cure for these difficulties . . . venting air *automatically* before it can cause damage.

The Simplex Air Valve is easily installed . . . positive in action . . . ample in capacity. Standard valves for pressures up to 250 p.s.i. . . . special valves for pressures up to 800 p.s.i. Thousands have been in successful use for over 30 years.

IT'S SIMPLEX IT'S ACCURATE

Write for free bulletin to Simplex Valve & Meter Co., 6717 Upland Street, Philadelphia 42, Pa.

SIMPLEX VALVE AND METER COMPANY

If you write maker identify as IEN - 7922

In production or in storage

IRONBOUND EQUIPMENT HANDLES SMALL PARTS MORE EFFICIENTLY

Standard 2-way entry bolted type skid built to handle loads up to 5 tons.

Standard box top welded to standard skid. Available too, with removable boxes. Handles many items in production and storage.

Flexible arrangement of boxes and skids permits tiering and stacking to meet your individual requirements. Provides quick availability, easy handling, or storage for complete units or parts.

Each of the units illustrated has an important use in modern industry. Ironbound skid platforms and box tops are prime sources of increased plant capacity so vitally needed today. Our representative can help you to increase your output and plant space. Catalog GP-7 may help you, too!

Ironbound

IRONBOUND BOX & LUMBER COMPANY *Materials Handling Division* 50 HOFFMAN PLACE • HILLSIDE, N. J.

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

If you write maker identify as IEN - 7923

Spotlight your product with name plates that *impress!*

Grammes metal craftsmen will match the quality of your product with name plates that make a lasting impression. Whether you want a few or millions the price is *right* and the service is *reliable!*

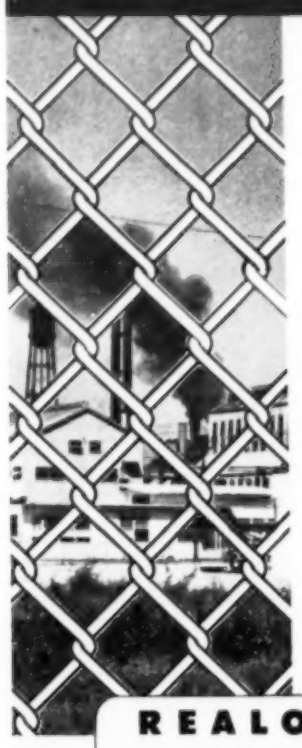
PROMPT DESIGN SERVICE! Submit rough sketch or blueprint for recommendations and prices. Get our new booklet "Tips on Name Plate Selection and Design". Write . . .

NAME PLATES DIALS — L.F. GRAMMES & SONS INCORPORATED ALLENTOWN, PA. — TRIMS • BEZELS PANELS

SPECIALISTS IN DECORATIVE METAL

If you write maker identify as IEN - 7924

REALOCK FENCE



GIVES *Positive* PROTECTION

Positive protection for your grounds and property is assured with Realock Fence. In addition, all fittings, hinges and locking devices have bolts on the inside, secure from outside tampering.

Noted for its rugged construction and long-lasting weather resistance, Realock Fence can be depended upon for years of dependable, trouble-free service.

For additional information write our nearest sales office or consult your classified telephone directory.

THE COLORADO FUEL & IRON CORPORATION
Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION
Oakland, California
WICKWIRE SPENCER STEEL DIVISION
Buffalo, New York

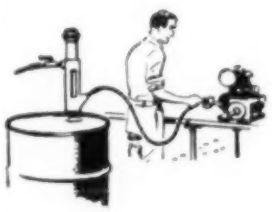
REALOCK FENCE
THE COLORADO FUEL & IRON CORPORATION
CF&I

BRANCHES IN ALL KEY CITIES

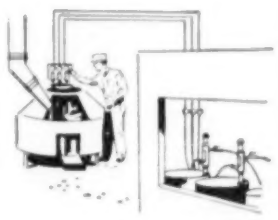
If you write maker identify as IEN - 7925

WHICH OF THESE *Fast-Flo* DRUM PUMP APPLICATIONS WILL SAVE MONEY FOR YOU?

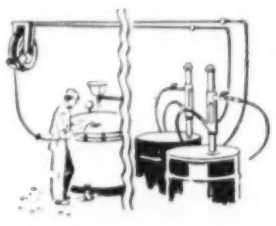
(Compare with present methods)



Transfer Fluids From Original Drums in measured amounts to production lines or stations. Also empty leaky drums quickly and safely.



Supply Fluids To Point-Of-Use, such as core oil and additives in a foundry operation, from drums located at a distance from the working area.



Clear Up Congestion In Work Areas with Fast-Flo Pump, hose reel and metered control valve system. Overhead reels save time, conserve space, stay out of the way.

Add Chemical Ingredients safely, cleanly, exactly with Fast-Flo . as in pumping trichloroethylene to vapor degreasers. Eliminate slow, costly manual handling.

These are only four—hundreds more!

Every drum of fluid or light material you handle may be a spot for Fast-Flo economy. Pump weighs only 15 pounds, can empty a 55-gallon drum in just three minutes! Fast-Flo has air-operated reciprocating action, screws directly into 2" standard drum bung openings, or clamps on sides of tanks. *Does not pressurize drums!* First cost of simply designed Fast-Flo is so low it pays for itself in a matter of *days*. Will out-perform any other similar equipment!

Get this New Fast-Flo DRUM PUMP Idea book!

Tells you where and how Fast-Flo can save you time and money. Write for your *free* copy!

GRACO *Fast-Flo* DRUM PUMP

GRAY COMPANY, INC.
71 Graco Square, Minneapolis 13, Minn.

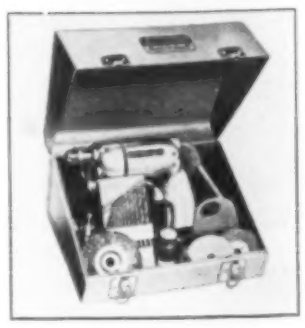
Regional Offices: New York, Philadelphia, Detroit, Atlanta, Chicago, San Francisco

---

If you write maker identify as IEN - 7927

DRILLING . . Portable electric tool in kit assembly with accessory parts

Source: PORTER-CABLE MACHINE CO.
17 Exchange St., Syracuse 8, N. Y.



2,000 rpm.

Model 114 is a new kit assembly of the Model 107 electric drill, previously described IEN-14093-52. The drill is a ball bearing unit with a 110-volt universal motor and a ¼-in. Jacobs chuck. The kit includes a set of 13 twist drills, a horizontal stand to convert the drill into a bench grinder, a 4-in. wire brush wheel, a 3-in. buffing wheel, a stick of rouge and a 3-in. grinding wheel. The carrying case is made of steel.

If you write maker identify as IEN - 7928

TRANSFORMER . . Variable voltage continuously adjustable for control

Source: STANDARD ELECTRICAL PRODUCTS CO.
2238-42 E. 3rd St., Dayton 3, Ohio

Single unit $55

Type 3000-B is a new unit in the Adjust-A-Volt variable transformer line for input from a 100-volt ac. line and for output in a range from 0 to 135 volts and to 30 amperes. Maximum rating is 4,000 va. The unit is available in single or stacked assemblies for series parallel or three-phase operation. Shipping weight for a single transformer is 27 pounds. Construction is characterized by excellent regulation, smooth control of voltage and a new type of brush construction.

If you write maker identify as IEN - 7929

FURNITURE . . Steel bench legs, structural parts in welded assembly

Source: INDUSTRIAL BENCH & EQUIPMENT MFG. CO.
98 South St., New Britain, Conn.

$3.60 to $9.60

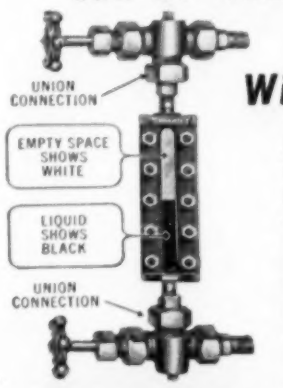
Channel section uprights and bottom brace and angle tops are employed in this new assembled bench leg. Formed steel feet and upper rear brackets complete the assembly. Overall height is 31¼ inches. Three widths are between 14 and 25 in. in a light duty assembly. Four widths range from 23½ to 45½ in. in a medium and heavy duty unit. Capacities are 3 to 4 ton.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7930

PENBERTHY LIQUID LEVEL GAGES

Can be Removed and Replaced Without Shutdown



PENBERTHY REFLEX GAGE

Union connections between the gage and the valves permit removal of gage for repairs without shutting down the equipment. Just close the valves, uncouple the unions and remove the gage. The convenience of this is obvious. When glasses have to be replaced or repairs made, it is not necessary to work in an awkward position or to shut down. Another advantage: a gage needing repairs can be replaced immediately by a spare and the repairs made at leisure. There are many other reasons for the superiority of Penberthy Liquid Level Gages; ask for Catalog 35.

PENBERTHY PRODUCTS

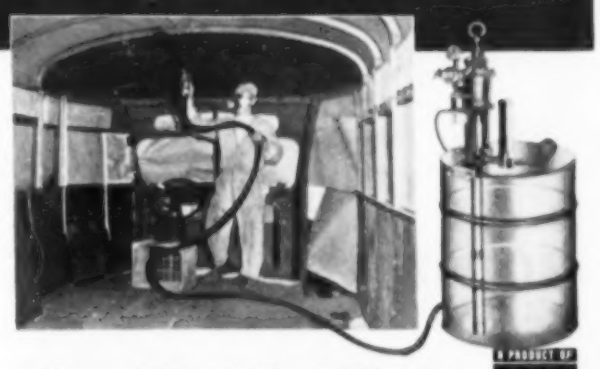
PENBERTHY INJECTOR COMPANY
DIVISION OF THE BUFFALO-ECLIPSE CORPORATION
Established 1886 DETROIT 2, MICHIGAN *Canadian Plant, Windsor, Ont.*

If you write maker identify as IEN - 7931

APPLYING SOUND INSULATION?

SPRAY IT ON...EASIER...FASTER WITH

ALEMITE VERSATAL PUMPS



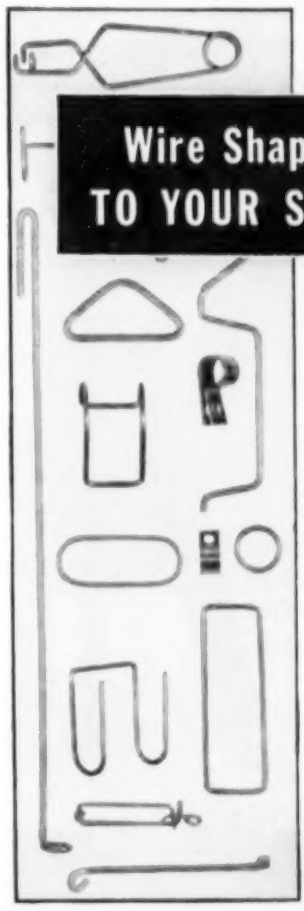
- Air-operated Versatal Pumps deliver materials direct from original 54-gallon drums.
- Speed, simplify, cut cost of material application.
- Pump through long lines of hose or pipe.
- Handle heaviest material even at low temperature.

FREE! A book of ideas on how Alemite Versatal Equipment can help solve your material handling problems. Address your request to Alemite, Dept. B-73, 1850 Diversey Parkway, Chicago 14, Ill.

ALEMITE *Versatal* SPRAY-PUMP EQUIPMENT

A PRODUCT OF SW

If you write maker identify as IEN - 7932



Wire Shapes and Forms TO YOUR SPECIFICATIONS

● Your wire forms are produced fast, accurately and at low cost with Sommer mass-production methods.

Speedy, automatic plating equipment handles either large or small assemblies. Popular new Zinc Iridite process adds a bright, durable, economical finish.

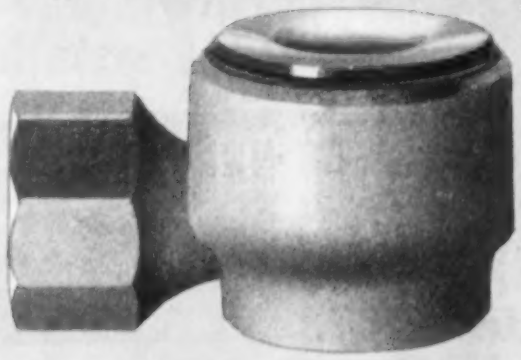
Sommer offers complete forming, stamping, cut-threading and butt-welding services. Let us work with you in designing and producing any wire shapes or forms needed for your defense contracts. Send sample, blueprint or drawing—see how Sommer can save you time and money.

METALCRAFT *sommer* Corporation

SOMMER METALCRAFT CORPORATION
300 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

If you write maker identify as IEN - 7933

precision instrument



for improved production

SPRAY NOZZLES alone can often materially control the costs and efficiency of a process or operation involving spraying. All Spraying Systems Spray Nozzles are precision instruments . . . with design based on years of research and experience in specialized hydraulics . . . and with manufacture maintained at precision tolerances. For proof let us give you the facts about Spraying Systems Spray Nozzles . . . the preferred nozzles today among equipment builders and engineering firms everywhere in industry.

WRITE FOR your copies of General Catalog No. 22 and Pneumatic Atomizing Nozzle Catalog No. 23. America's most complete spray nozzle reference manuals. Data Sheets supplied covering specialized applications.

SPRAYING SYSTEMS CO.
3208 Randolph Street • Bellwood, Illinois

If you write maker identify as **IEN - 7934**

MINNESOTA

the O-ring with the FORMULA for strength, accuracy and uniformity

INJECTION MOLDED Minnesota O-rings meet specific requirements for hydraulic seals with close tolerances and without flash or trim. They function in air, gas or hydraulic systems including cylinders, hydraulic valves, water pumps, hoisting mechanisms, hydraulic brakes, bottling machines and engines. ***Write for the O-Ring Bulletin.***

Also manufacturers of U and V seals . . . grommets . . . washers . . . and small parts made of rubber and synthetics including silicone, thickol and saran.

MINNESOTA RUBBER & GASKET COMPANY
3630 WOODDALE AVENUE • MINNEAPOLIS 16, MINN.

If you write maker identify as **IEN - 7935**

Where in Your Plant Can You Use Brushes Like These to Cut Costs?

Write Today for MILL-ROSE Catalog

HIGH PRECISION INDUSTRIAL BRUSHES TWISTED IN WIRE

The **MILL-ROSE** *Company* 1985 EAST 59th STREET CLEVELAND 3, OHIO

If you write maker identify as **IEN - 7936**

BE CERTAIN

GET BRONCO 60 *Certified*

the portable cords and cables with 60% *by weight* Neoprene jackets.

BRANDED!

BRANDED JACKETS!
No mistake...You know you are getting *Certified*. You read at a glance cable type, size, voltage, "P116BM"... which indicates approval by the Pennsylvania Bureau of Mines, and acceptance for listing by the U. S. Bureau of Mines. Easy to measure . . ."Bronco" is repeated every 2 feet.

With Bronco 60 *Certified* you know you are getting a full 60% *by weight* of Neoprene in your cable's protecting jacket because its contents are *certified*.

***More Neoprene* makes long-lasting Bronco 60 *Certified more resistant* to oil, acids, alkalis, ozone, gasoline, salt water.**

In addition, with Bronco 60 *Certified* you get: 1. Cold Rubber Insulation. 2. Branded Jackets. 3. Superior Flexibility.

So, BE CERTAIN, GET *CERTIFIED* — the greatest cord value on the market!

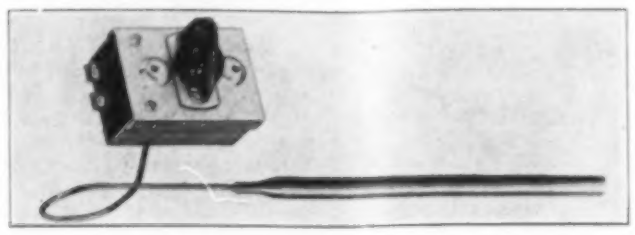
SOLD NATIONALLY BY ELECTRICAL WHOLESALE DISTRIBUTORS

WESTERN INSULATED WIRE CO.
Los Angeles 58, California

If you write maker identify as **IEN - 7937**

THERMOSTAT . . Liquid actuated, overall range 40 to 550 degrees F.

Source: **WILCOLATOR CO.**
1003 Newark Ave., Elizabeth 3, N. J.



Applies in limited space

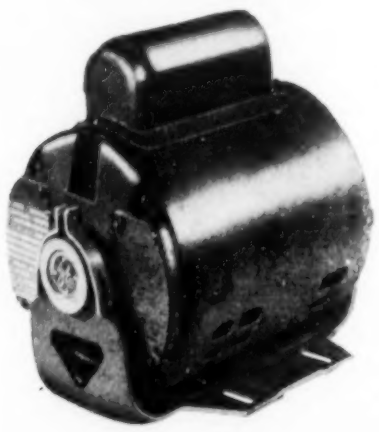
Air conditioners, water heaters, dryers, cookers, warmers, ovens are representative applications for this new Type-F thermostat. It employs a stable heat sensitive liquid in a bulb and capillary tube to operate a diaphragm. The diaphragm movement is multiplied to open and close snap-acting single-pole double-break contacts made of silver.

Type F-1 contacts are normally open to close on temperature rise. Type F-2 is normally closed to open on a temperature rise. The switch housing is plain back of the knob for the user to supply his own dial, or the dial can be specified. Four ranges are minimum at 40 to 100 deg. F., maximum at 150 to 550 deg. F.

If you write maker identify as **IEN - 7938**

MOTOR . . Single phase, capacitor, resilient base, ½ and ¾ hp. sizes

Source: **GENERAL ELECTRIC CO.**
Dept. 6X-201, Schenectady 5, N. Y.



Small and light

Starting currents conform to NEMA standards for two new sizes the company has added to its Form-G line of fractional horsepower motors for special services. The line now includes four sizes starting at ¼ hp. Each is reconnectable at the terminal board for operation on 110 or 220-volt ac. Typical applications are on evaporative coolers, attic fans, milking machines, compressors, garage tools, home workshops.

Identify as **IEN - 7939**

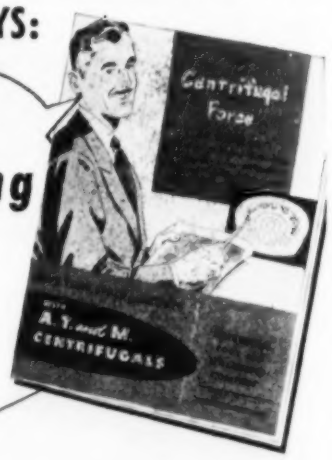
Special interlocking assembly of Mead air indexing equipment applies on a milling machine table so a slotting operation becomes automatic after the operator places the work pieces in the starting position. The assembly is one of several shown in its Air Power Catalog by Mead Specialties Co., 4112-16 N. Knox Ave., Chicago 41, Ill.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 7940**

SAM SPINNER SAYS:

Get these money-saving facts on YOUR processing!



If you use any of these processes:

Separation . . . Extraction . . . Impregnation . . . Coating . . . Precipitation . . . Draining . . . Dehydration . . . Thickening . . . Sedimentation . . . Filtration . . .

here's a free booklet packed with information on how you can literally *spin* your way into faster, better processing at lower cost. AT&M's booklet, "Centrifugal Force," brings you eight pages of illustrated facts showing why centrifuging is replacing older processing methods in all types of industry. Learn how you can cut your own production time and costs with modern AT&M centrifugals. Write for your free copy of "Centrifugal Force" to American Tool & Machine Company, 1417 Hyde Park Ave., Boston 36, Mass.

SAVE TIME, SPACE AND COSTS WITH

A.T. *and* M.
CENTRIFUGING

If you write maker identify as **IEN - 7941**

ACE PLASTIC EXTRUSION

PLUS FABRICATION

from Rods
Sheets, Tubes
Special Shapes

Extruded parts from the raw material to the finished product . . . an Ace specialty. Ace Plastic rods, tubes and shapes are custom extruded and machined automatically to your most exacting specifications. Let our engineers assist you with your plans.

WRITE TODAY FOR SAMPLES, send prints for quotations.

By the manufacturers of famous Ace Nylon Balls

ACE PLASTIC COMPANY
Precision Plastic Fabricators and Extruders
91-24 Van Wyck Expressway • Jamaica 2, N. Y.

If you write maker identify as **IEN - 7942**

the standard of accuracy . . .

BOWSER XACTO

. . . the World's most widely used meters!

For over a quarter century Xacto meters have brought to industry after industry an entirely new and effective way to measure liquids accurately and dependably.

•

Xacto meters accurately measure and safely handle more than 662 different liquids in processing, blending, packaging and many other operations.

•

There is no substitute for Bowser Xacto meters for checking incoming deliveries, transferring, batching or recording consumption.

•

BOWSER, INC. 1338 CREIGHTON AVENUE
FORT WAYNE 2, INDIANA

BOWSER

REGIONAL OFFICES
Atlanta • Chicago • Cleveland • Dallas • Kansas City
New York • San Francisco • Washington, D. C. • Hamilton, Ont.

If you write maker identify as IEN - 7944

Here's a **4 in 1 HEAT CONTROL**

1. DOUBLE POLE THERMOSTAT
2. AUTOMATIC HEAT SELECTOR
3. TWO-CIRCUIT SWITCH
4. FAST HEAT ELEMENT CUT-OUT

Just turn the dial and two elements are automatically cut in for quick pre-heating. Shortly before pre-heat temperature is reached, the control cuts out No. 1 element to minimize overshoot; then automatically cuts out No. 2 element, then automatically maintains temperature by recycling No. 2 element.

Here is a control that may solve many problems where it is desired to pre-heat quickly and then maintain set temperature automatically. This control has a maximum temperature range of 550°, is fully automatic, flexible, compact. It is easy to install in any of four mounting positions. Three basic models are available. ***Write for full information.***

Robertshaw-Fulton
CONTROLS COMPANY

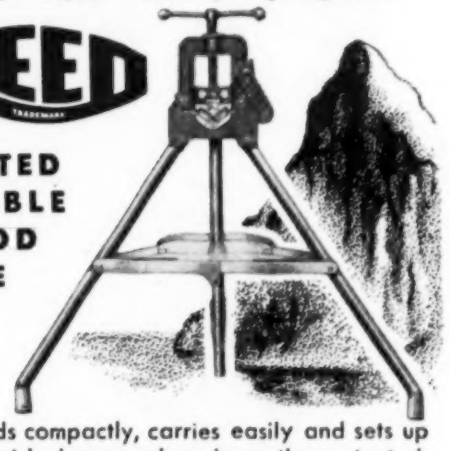
ROBERTSHAW THERMOSTAT DIVISION, YOUNGWOOD, PENNSYLVANIA

If you write maker identify as IEN - 7945

Solid as a Rock!

the **REED** TRADEMARK

PATENTED PORTABLE TRIPOD VISE



One unit. Folds compactly, carries easily and sets up instantly. A quick downward push on the patented, large-surface tray locks the stand solidly so that all cutting or threading effort goes into the work. Legs cannot buckle under any working conditions. They line up vertically with the face of the well-known REED long-jaw vise. *Ask your jobber or write . . .*

REED TRADEMARK

MANUFACTURING COMPANY
ERIE, PENNSYLVANIA

If you write maker identify as IEN - 7946

Diesel by BUDA does it!

Buda Diesel-powered fork lift trucks swivel on a dime . . . purr up steep ramps, finger capacity loads into the tightest corners. They penny-pinch fuel, burning it clean through, saving 50% to 60% on fuel costs with no fire or toxic vapor hazards. New torque converter gives clutch six lives . . . can be replaced in 30 minutes!

Ask your nearby Buda distributor how Buda Diesel-powered equipment saves fuel, maintenance and operation costs. Or write for bulletins and specifications. The Buda Company, Harvey, Ill.

...THE LINE WITH ALL 3 FOR DIVERSIFIED HANDLING

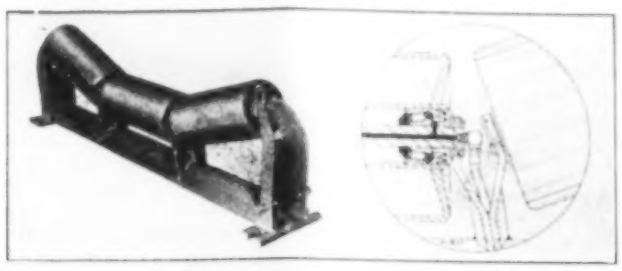
BUDA

Chore Boys · Towing Tractors · Fork Lift Trucks

If you write maker identify as IEN - 7947

CONVEYING . . Belt carrier with spun end rolls on roller bearings

Source: **STEPHENS-ADAMSON** MFG. CO.
231 Ridgeway Ave., Aurora, Ill.



Illustrated data in Bulletin 453

Simplex Series 220 is a new assembly of structural base, welded support brackets and spun end steel belt conveyor rolls mounted on Timken roller bearings. The bearings are grease lubricated through fittings at one or both sides of each assembly. Adjustable labyrinth seals prevent leakage. The assembly tilts a little in the direction of belt travel to assist in "tracking" the belt. Flat return carriers are available in design similar to the load units.

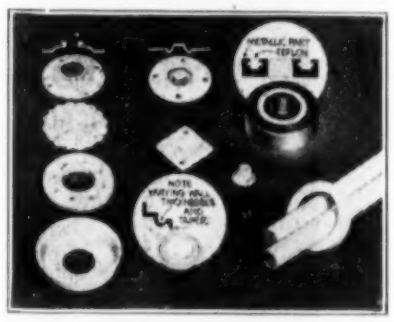
Each roll is carried on a stationary shaft threaded at its ends for the adjusting nuts. The nuts ride in hexagon bottom grooves in the support brackets from where the roll assemblies can be lifted out for replacement. The Timken bearings and the die cast labyrinth seals assemble in machined seamless steel tubes on which the spun end steel rolls are welded. Lubricant enters through the drilled shafts.

Two diameters are 5 and 6 inches. Assemblies are available for belt widths from 18 to 60 inches. Weights are 65 to 150 lb. for the 5-in. rolls, 75 to 170 lb. for the 6-in. size. The return assemblies weigh 35 to 95 lb. and 65 to 150 pounds. Base width is 27 to 69 inches.

If you write maker identify as IEN - 7948

PLASTIC . . Teflon molded parts available to order in specified shapes

Source: **SPARTA HEAT-TREAT CO.**
952 Thomas St., East Sparta, Ohio



Typical examples

Wall thickness can be varied, tapers and undercuts can be included, following further development of the company's facilities to mold Teflon, previously described IEN-10963-52. The illustration shows typical parts including diaphragms, discs, cup seals, spiral washers, special seals with wall thickness ranging from 0.047 to 0.031 inch. Also available is Teflon molded into metal as an insert as shown in the Teflon-brass part to the upper right in the illustration.

The plastic is chemically inert. It will hold up in service in a temperature range between minus 320 and plus 500 deg. F. It will not adhere to other materials. It has high resistance to erosion by impinging fluids. Coeffecient of friction is low. Moisture absorption is practically zero. The material has excellent dielectric properties and is proof against aging.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7949

VANISHING MAINTENANCE

PREST-O-MATIC COMPLETE AUTOMATIC DOOR UNIT

NO DOWNTIME

"PACKAGED" for installation in less than 3 hours by your own plant men . . . NO FITTING, NO ALTERATIONS . . . **no EXTRAS to buy!**

Make sure the doors you use will give you excellent service. Only complete door units can be Guaranteed by the manufacturer.

FULL DOORWAY WIDTH FOR TRAFFIC

Prest-O-Matics are bolted to walls, leaving entire doorway available. No masonry or carpentry work required. Pass doors included if desired.

BI-FOLD or SLIDING

These doors are made to your measure. Any type of control, in Bi-Fold, Single, or Double sliding (see illustration). Proof of satisfaction to industry throughout the U. S. A.

write for Catalog!

CLARK DOOR COMPANY
519 Hunterdon Street Newark 8, N. J.

If you write maker identify as IEN - 7950

ECONOMY-WISE?

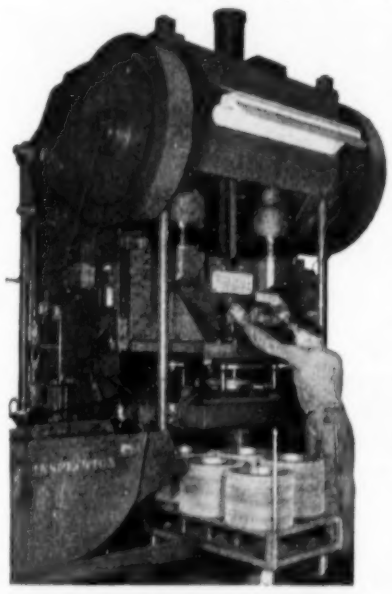
BUY MOLDED PLASTICS BY
GRIGOLEIT

The best for less has been a habit with Grigoleit for over a quarter century. Economy, service and sales appeal combine to give your product a "new look" in molded plastics. A complete line is available for your selection. Prompt delivery assured, providing you order now.

GRIGOLEIT is now in a position to accept orders for the manufacture of small finished plated stampings for appliance trim.

THE GRIGOLEIT COMPANY
Decorative Industry for Twenty-Two Years
142 N. NORTH ST. DECATUR, ILLINOIS

If you write maker identify as IEN - 7951



Clutch plates of sizes 11¾" to 22¾" O.D. are made with this 300 ton Steelweld Press.

2000 CLUTCH PLATES PUNCHED PER SHIFT

Many unusual jobs far afield from bending can be done economically on Steelweld Presses built with simple variations to suit requirements. The machine illustrated provides a low-cost method of punching clutch plates of 11 to 13 gauge metal.

Send for free copy of catalog No. 2011

THE CLEVELAND CRANE & ENGINEERING CO.
4237 East 281st St. Wickliffe, Ohio

STEELWELD PRESSES

If you write maker identify as IEN - 7952

ARO BLOW GUN

Metered air pressure!

- Throttle valve meters air exactly...just press for more pressure ...or set for *fixed pressure.*
- Extremely simple design.
- Easy to use—fits your hand.
- One piece cast housing—sturdy, rugged construction.
- For wide range of cleaning jobs in shops, foundries, production, inspection, shipping, etc. Write for details.

The Aro Equipment Corp., Bryan, Ohio
Offices in All Principal Cities
Aro Equipment of Canada, Ltd., Toronto, Ont.

ARO BLOW GUN
Also . . . Air Tools . . . Lubricating Equipment . . . Hydraulic Equipment . . . Aircraft Products . . . Grease Fittings

If you write maker identify as **IEN - 7953**

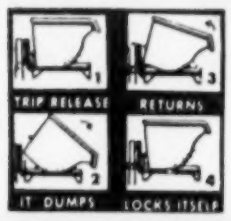
H_2O anyone?

● If you need or use between 200 and 100,000 gallons per minute of clean water, find out how Cuno's FLO-KLEAN filters can save you money. In hundreds of applications throughout industry, the fully automatic, continuously self-cleaning FLO-KLEANS have paid for themselves many times over by making raw river, lake, or well water fit for industrial use—and reclaiming process water. Write for the free FLO-KLEAN bulletin. The Cuno Engineering Corporation, Dept. 692F, Meriden, Connecticut.

3.2

If you write maker identify as **IEN - 7954**

SAVE 50% LABOR-TIME with ROURA Self-Dumping HOPPERS



Only ROURA Has The Exclusive PATENTED Instant Release Handle

Use Self-Dumping Containers —they pay for themselves

Fitting any standard fork or platform lift truck, thousands of ROURA HOPPERS are in constant operation handling wet or dry, hot or cold, bulky materials. Simple to operate—only one man is required for distributing and unloading—quicker and easier.

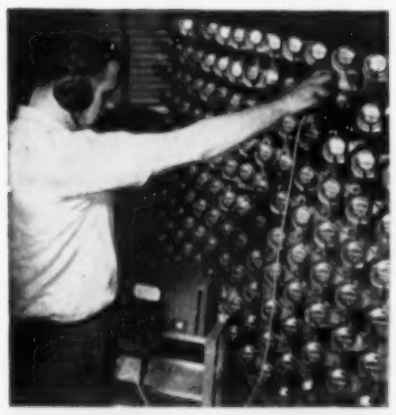
The ROURA HOPPER dumps, rights and locks itself securely by a simple lift of the patented release handle. Sizes ½ to 2 cu. yds. ROURAS can also be designed for flat trucks and in other sizes to meet specifications—can be equipped with special flanges to permit stacking for storage or future distribution. The ROURA will quickly pay for itself many times over. Write today for detailed brochure.

Imitated by Many—Not Equaled by Any

• SIMPLE
• SAFE
• SPEEDY

ROURA IRON WORKS, Inc.
1409 Woodland Ave. Detroit 11, Mich.

If you write maker identify as **IEN - 7955**



TESTED 51 TIMES

No guess-work in the manufacture of SYNCHRON timing motors which must pass 51 separate inspections and a grueling final test (above) before leaving factory. Advanced engineering tested materials, precise manufacture, assure lasting accuracy and dependability.

Pulls up to 8 oz. direct load at 1 R.P.M. Operates efficiently at −40° to +140°F. Available with gear trains to convert any speed.

SYNCHRON® timing motors

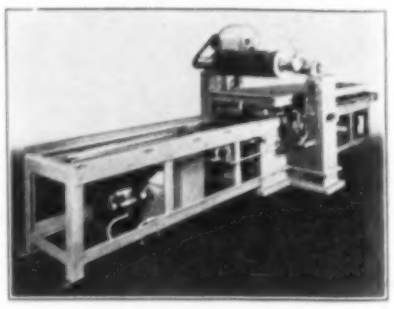
HANSEN MANUFACTURING CO., INC., PRINCETON 2, INDIANA
Send catalog and engineering data to:

Name .....
Firm .....
Address .....
City ..... Zone ..... State .....

If you write maker identify as **IEN - 7956**

POLISHING . . Roll type machine for metal sheets, extrusions, rods

Source: CENTRAL MACHINE WORKS INC.
70-74 Commercial St., Worcester 8, Mass.



Eliminates hand work

The polishing roll, in this new Series H-M machine, mounts horizontally above a hydraulically operated table measuring 30 in. in width. The table can be set to reciprocate through any distance between 2 in. and its full length. The machine is available in various lengths with the table measuring 6 to 20 feet. Small work pieces as well as long ones can be handled by means of fixtures secured to the table.

Work movement can be in a straight line or in an action that includes oscillation across the face of the roll by turning a hydraulic control valve. Overall dimensions are 16 to 43 ft. in length by about 6 ft. in height and 5½ ft. in width. The roll is driven by a 10 hp. motor. Hydraulic pressure is supplied by a pump driven by a 1-hp. motor.

If you write maker identify as **IEN - 7957**

PRESS . . Hand hydraulic assembly based on company's push-pull jack

Source: OWATONNA TOOL CO.
371 Cedar St., Owatonna, Minn.

Rates 17½ ton

Steel channels form the structural frame, head and movable bed for this new Type Y106-A hand hydraulic press. The power unit is the company's hand hydraulic jack, previously described IEN-4738-51. Pressure capacity is 17½ ton. The jack mounts a 20-in. adjusting screw through its center hole and rides for lateral positioning on the bottom flanges of the frame head.

Space between the uprights measures 20 inches. Distance between the bed adjusting holes is 2½ in. for an overall bed adjustment of 32 inches. The assembly weighs 225 lbs., measures 53 in. in height, 23½ in. in width. Floor space is 28 by 27½ inches.

A new bulletin, HY-1953, illustrates this machine and also the company's complete line of hand hydraulic jack equipment and other presses with ratings to 50 ton.

Identify as **IEN - 7958**

Television is "riding high" at the Gary Works of United States Steel. The camera is located 48 feet above the runout table leading from an 80-inch hot strip mill to the coiler. The receiver is on the control pulpit where the operator has a clear view of exactly what is happening. Adequate illumination is provided above the moving strip by a bank of forty-four 500-watt spotlights on 4-foot centers. Illinois Bell Telephone Company made the installation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 7959**

Dependable Power

Sarkes Tarzian "Centre-Kooled"®
PATENTS NO. 2619692 & 2620384

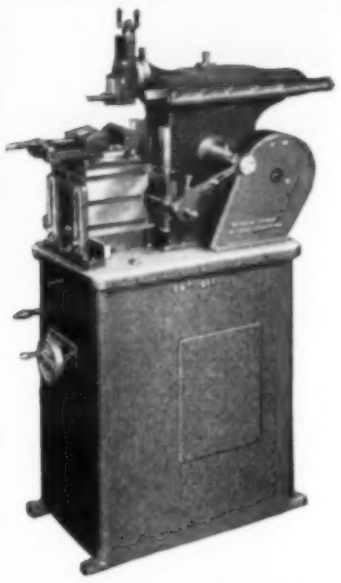
SELENIUM RECTIFIERS

Embedments A recent "first" in the industry, Sarkes Tarzian embedments offer the advantages of hermetically sealed rectifiers at a fraction of the size, weight and cost. *Please write, wire or phone for complete information on all types of Sarkes Tarzian Selenium Rectifiers.*

SARKES TARZIAN, Inc., Rectifier Division
Dept. B-4, 415 N. College Ave., Bloomington, Ind.

If you write maker identify as **IEN - 7960**

THE Logan 8" SHAPER



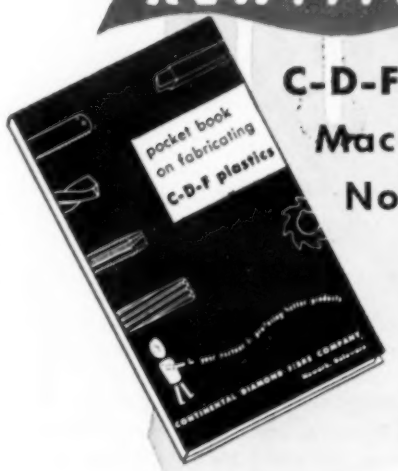
Combines Capacity, Power, Precision and Versatility

With its powerful 8½" stroke and rugged, accurate construction, the Logan Shaper produces precision results on straight cuts, angular cuts, squaring, machining and slotting. Six automatic feeds in either direction, from .002" to .012". Enclosed variable speed drive provides any speed from 35 to 180 strokes per minute. 8"x8" table has a vertical travel of 5½" and a 10½" traverse. Trim and compact in design, simple to operate, and smooth on heavy cuts, the Logan Shaper brings economy and lasting accuracy to large and small shops and schools. Available with ½ H.P. and ¾ H.P. Motors. Write for details.

LOOK TO LOGAN FOR BETTER LATHES AND SHAPERS
LOGAN ENGINEERING CO.
4901 West Lawrence Avenue, Chicago 30, Illinois

If you write maker identify as **IEN - 7961**

NEW . . . FREE



C-D-F Plastics Machining Notebook

Tells how to save time, money in fabricating laminates, fibre, mica, fabric-based plastics.

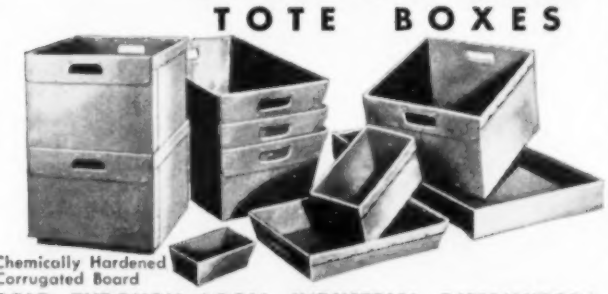
● If you fabricate plastics here's a vital new manual for you! Solves machining and forming problems, gives tool speeds and punch press data. Helps cut waste of material and time; simplifies ordering. Contains latest shop-tested information. Write for your free copy now!

C-D-F has sales engineers in principal cities.

Continental-Diamond Fibre Company
main office: NEWARK, DELAWARE, U.S.A.

If you write maker identify as **IEN - 7962**

FAMOUS "CHEM-BOARD"* CONVOY TOTE BOXES



*Chemically Hardened Corrugated Board

SOLD THROUGH LOCAL INDUSTRIAL DISTRIBUTORS

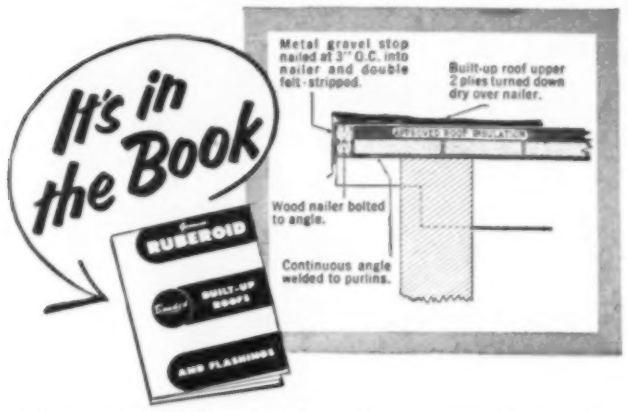
Cost—weigh—50% to 60% less than steel. A wide range of sizes in standard and custom made NESTING, STACKING, VERTICAL TOTE BOXES. Write for complete information, prices, name of distributor in your area.

CONVOY RECORD STORAGE FILES
Sold Only by YOUR LOCAL STATIONER

Used by most famous names in industry and businesses of all kinds. CONVOY "CHEM-BOARD" files for record storage made in letter, legal, and 12 other sizes. Stack to ceiling, mate together. Call your local stationer or write for name of stationer nearest to serve you.

CONVOY, INC.
Canton 6, Ohio
P. O. Station B, Box 216-1

If you write maker identify as **IEN - 7963**



The answer to all your roofing maintenance problems is in Ruberoid's Built-Up Roofing Specification Book. There's a complete specification with detail drawings, like the one above, to meet every condition—Smooth Surfaced Asbestos, Coal Tar Pitch or Special Bitumen with gravel or slag surfacing, and smooth or gravel-and-slag surfaced asphalt.

Because Ruberoid makes *every type* of built-up roof, Ruberoid roofers are not prejudiced in favor of any one type. Because Ruberoid has been a leader in the field for 60 years, you can depend on the right materials and the right specification through Ruberoid Approved Roofers.

Give your roof a thorough check-up now, *and write for Ruberoid's free Built-Up Roofing Specification Book. The Ruberoid Co., 500 Fifth Avenue, New York 36, N. Y.*

The RUBEROID Co.

ASPHALT AND ASBESTOS BUILDING MATERIALS

If you write maker identify as **IEN - 7964**

WINSMITH SPEED REDUCERS

turning 25 lb. family bundles sunshine bright in Prosperity Individual Production Washers

• Turning the cylinder of this fully automatic 25 lb. Prosperity Individual Production Washer, at a speed of 36 rpm, is a Winsmith worm gear type speed reducer. It is depended on to speed each family bundle successfully through a complete washing and rinsing cycle . . . *without delay.*

Direct-driven by a ½ hp motor, and spinning the cylinder via a v-belt, this Winsmith Model 3½B, horizontal, single reduction unit was selected by The Prosperity Company, Inc. *"for its compactness, ruggedness and easy serviceability."*

. . . . and for such reasons, Winsmith Speed Reducers are fast becoming *standard* with numerous makes and types of primary equipment and machines that are well known to the American public and to industry.

To serve *all* your speed reduction requirements within the 1/100 to 85 hp range, Winsmith is the *only* name you need to remember. For details, request Catalog 148.

WINSMITH, INC.
10 DAVIS ST.
Springville (Erie County), N. Y.

If you write maker identify as **IEN - 7966**

SIGNALING . . Indicator lights, miniature to mount in 15/32 in. hole

Source: DIALIGHT CORP.
58 Stewart Ave., Brooklyn 37, N. Y.

Brochure L-153

A brass housing, a lens of specified color, black or white nickel or polished chrome finish, can be specified for this new sub-miniature indicator light. It is available from stock for panels to 3/16 inch in thickness and can be ordered for panels to ⅜ inch. Solder or screw terminals are standard.

Various designs include non-dimming and dimming assemblies, lights with shields for front or back projection and for plastic plate-edge lighting. The assembly shown is the dimmer type and includes the "press to test" patented feature developed by the company.

If you write maker identify as **IEN - 7967**

TESTING . . Heat indicating pellets designed to melt at given temperatures

Source: TEMPIL CORP.
11 W. 25th St., 5th Floor, New York 11, N. Y.

To indicate temperature

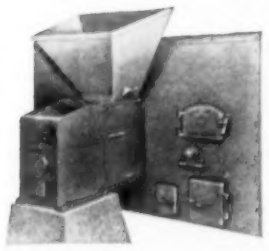
Six new pellets have been added to the Series R units, previously described IEN-10867-51, to make a line that now contains 14 pellets, each to indicate a predetermined temperature by melting. The lowest is 650 deg. F. The highest is now 1,900 deg. F. The pellets are designed for use in reducing atmospheres such as hydrogen, cracked ammonia, water gas, producer gas, carbon monoxide.

A small shallow cup, made of stainless steel foil is supplied with each pellet and the cup, with the pellet in place, is positioned on the object or in the zone where temperature measurement is desired. The cup serves as a container when the pellet melts and prevents its dissipation on prolonged heating. It also separates the pellet from the work surface so the latter cannot be stained by contact with the liquid material. Fifty of the pellets and cups list at $5.00.

If you write maker identify as **IEN - 7968**

HEATING . . Underfeed stoker permits access to front boiler doors

Source: ERIE CITY IRON WORKS
1651 East Ave., Erie, Pa.



Straightline thrust

Fluid-Ram is a new single retort underfeed stoker. It features unobstructed access to the fire door, sifting and ashpit doors at the front of a boiler. The stoker is operated by hydraulic pressure supplied from a motor-driven pump and control assembly mounted in the housing above the ram. A relief valve protects against overload. The hydraulic cylinder and oil reservoir are enclosed against entrance of dust. The automatic reversing valve is located in a dust tight compartment.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 7969**

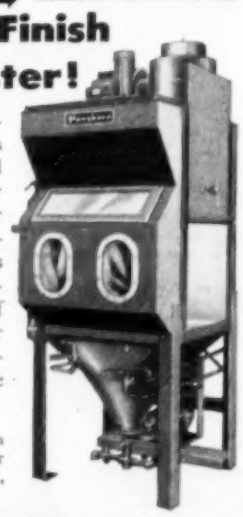
BEFORE

Mold cleaned and finished by Pangborn Hydro-Finish in *minutes!*

AFTER

Pangborn Hydro-Finish cleans better—faster!

Molds, dies, tools—Pangborn Hydro-Finish cleans them quickly, leaves them bright and ready to use! Hand cleaning and polishing is practically eliminated! And production is further speeded up because Pangborn Hydro-Finish, operated by one man, removes scale and discoloration in minutes instead of hours. In addition, the use of fine mesh abrasives suspended in water gives you a precision job . . . holds tolerances to .0001" . . . protects delicate equipment.



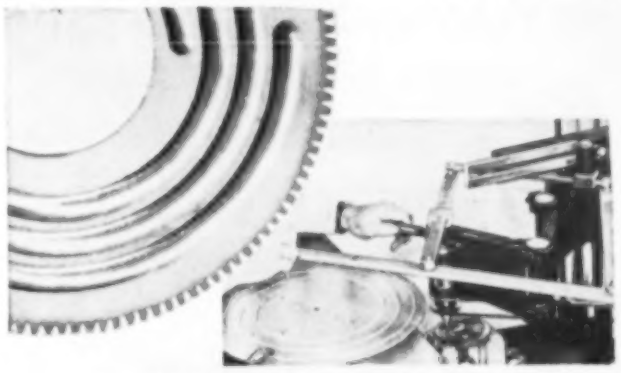
GET COMPLETE FACTS on Hydro-Finish and how it can save *you* money! Write for Bulletin 1400A to: PANGBORN CORPORATION, 2300 Pangborn Blvd., Hagerstown, Md.

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control equipment

Pangborn

BLAST CLEANS CHEAPER
with the right equipment for every job

If you write maker identify as **IEN - 7970**



PANTOGRAPHIC MILLING OF SPIRALS

ON METALS AND PLASTICS

Rapidly done by unskilled labor

with NEW HERMES Engravograph

Write for Literature
Catalog H23 Bench Type Model (weight 200 lbs.)
Portable Model IM also available

Production: 6" brass spiral with ¼" x ¼" groove cut from 3 times larger template Time: 12 units per hour.

NEW HERMES, INC. 13-19 University Place, N. Y. 3
Representatives in all principal cities. Canada—359 St. James St., Montreal

If you write maker identify as **IEN - 7971**

Fans.. Blowers FOR ALL INDUSTRY

"Standard Units or Custom Design"

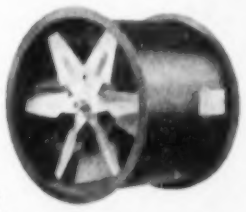
DOUBLE SWIVEL AEROSPOT

For column or wall mounting. Saves valuable floor space. Direction of blast adjustable: 360° around Spindle Axis, 90° around Motor Support Axis. Sizes, 20" to 36".

Fans and blowers in a wide range of standard size units are available for specific air moving and ventilating requirements. Special custom designed equipment can also be furnished. Our staff of engineers is at your disposal for competent advice on any ventilating problem. Correspondence invited, without obligation.

SEND FOR CATALOG TODAY!

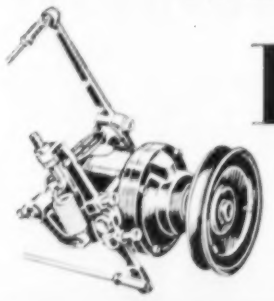
6 Blade DYNAFLOW Unit
Also available in two and four blade types. Sizes, 16" to 36".



DUCTYPE BLOWER
Direct driven, single or tandem fan units. Also available with belt drive. Sizes, 16" to 36".

SOUTH BEND AIR PRODUCTS, Inc. 322 E. COLFAX AVE. SOUTH BEND, IND.

If you write maker identify as **IEN - 7972**



now ONE GOVERNOR ONE MODEL . . .

for 9 out of 10 industrial and farm engines

PIERCE LONG RANGE UNIVERSAL GOVERNOR

● Instant variable speed selection and accurate engine control at any speed setting within 1200 to 2600 RPM. Higher and lower ranges obtainable by simple change of pulley. Also "constant speed" operation.

● Accurate, dependable speed control for engines operating corn shellers, drag lines, hoists, arc welders, trucks and tractors with power take-offs, etc.

Write for Complete Information

DEALERSHIPS AVAILABLE

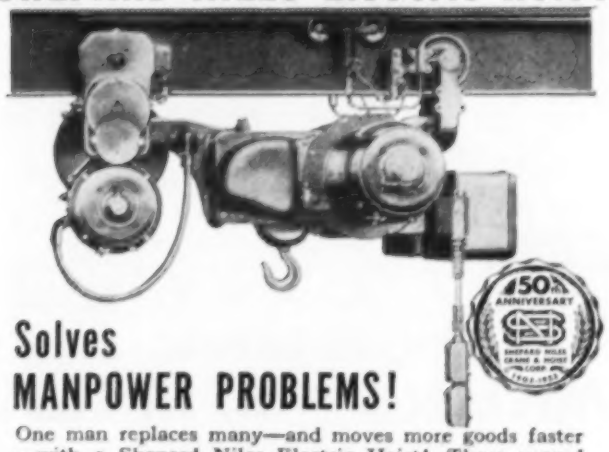
List Price **$39.50** Pulley extra

THE PIERCE GOVERNOR COMPANY, INC.
1636 Ohio Avenue, Box 1000, Anderson, Indiana, U. S. A.

WORLD'S MOST EXPERIENCED GOVERNOR MANUFACTURER

If you write maker identify as IEN - 7973

SHEPARD NILES Electric Hoist



Solves MANPOWER PROBLEMS!

One man replaces many—and moves more goods faster—with a Shepard Niles Electric Hoist! These rugged hoists free floor space for production, put waste ceiling area to work—enable an older man, woman or youth to handle heaviest loads with ease.

Learn how a Shepard Niles Hoist—in light, medium or heavy capacity—fits into your production picture. Let a Shepard Niles representative help you select the right capacity and controls for your handling job. Write today for latest bulletins—and ask to have a representative call

HOISTS Operated from Cab, Floor or Pulpit. Cap: 1 to 20 Tons.

CRANES Overhead: Top Running, Inner Running, Under Running, Floor or Cab Operated. Cap: 1 to 450 Tons.

SHEPARD NILES
CRANE AND HOIST CORPORATION
1028 SCHUYLER AVENUE, MONTOUR FALLS, N.Y.

If you write maker identify as IEN - 7974

When so much depends on so little

Don't settle for less than Chicago "*Safety Plus*" High Carbon Heat Treated Cap Screws

- For complete hardness from the center all the way out—no soft skin to cause wear or breakage due to fatigue.
- For freedom from scale — cleaner to handle — give a tighter thread fit — have smoother bodies.
- For extra safety — better appearance — ALL at no increase in cost to you.

You get these advantages with Chicago "Safety Plus" Heat-Treated Cap Screws.

Corners stay sharp . . . provide positive non-slip wrench grip . . . No decarburized surface.

Bodies wear longer . . . nominal diameter remains to size . . . No decarburized surface.

Threads without nicks . . . hold tighter in engagement . . . No decarburized surface.

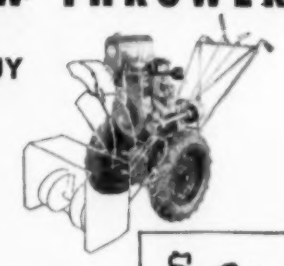
Your Service-Conscious Industrial Supply Distributor carries a complete stock of our products. Ask him for samples of Chicago "Safety Plus" Heat Treated Cap Screws. His familiarity with your local field conditions enables him to fill your supply needs promptly and correctly. Ask for "Chicago" and get "Safety Plus".

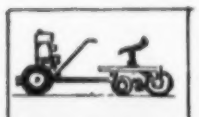
THE CHICAGO SCREW COMPANY
7525 WASHINGTON BOULEVARD
BELLWOOD, ILLINOIS

If you write maker identify as IEN - 7975

MAXIM SNOW THROWERS

NOW A GOOD BUY FOR DECEMBER OR JULY





3-Gang 72" Mower

37" Rotary Mower

Now you can use a Maxim Snow Thrower all year long. The snow thrower unit is readily removable, leaving a sturdy 7.5 h.p. tractor on which you can quickly attach the equipment shown here. Tractor is equipped with a heavy duty transmission having 3 forward speeds and one reverse. Use this one piece of equipment for snow removal, mowing, rolling, grading, or hauling.

700 Lb. Lawn Roller

42" Grader or Snow Blade

1/2 Ton Dump Trailer

WRITE FOR DETAILS ON THIS MULTIPLE USE EQUIPMENT!

THE MAXIM SILENCER COMPANY
71 Homestead Avenue, Hartford 1, Connecticut

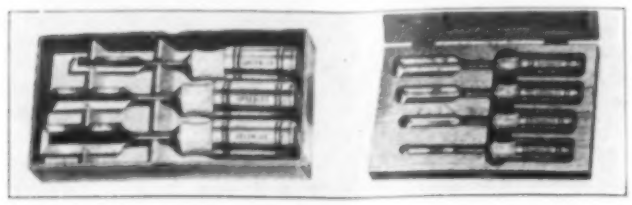
Name_____
Address_____

1MT83

If you write maker identify as IEN - 7976

WOOD WORKING . . Chisels in sets, tang butt design, ¼ to 1½ inches

Source: GREENLEE TOOL CO.
2134-38 Twelfth St., Rockford, Ill.



Handled by hardware wholesalers

No. 403-1 is a new set of three tang butt chisels measuring ½, ¾ and 1 in. in blade width. The three are packaged in a metal-edge fiberboard box with dividers to hold the tools in place.

No. 403 H-4 consists of four units, from ¼ to 1 in. in blade width, and a hardwood carrying case containing individual compartments.

No. 403 R-6 comprises six chisels measuring ¼ to 1½ inches. They are packaged in individual pockets in a plastic roll. The pockets are fitted with flannel cover flaps.

If you write maker identify as IEN - 7977

HANDLING . . Power shovel lifts to dump into car, hopper, truck

Source: BAKER-LULL CORP.
312-16 W. 90th St., Minneapolis 20, Minn.

Tractor mounted

Lift height is to 16 ft. and dumping height is 14½ ft. with this new Shoveloader. Load rating is to 3 ton. The mobile unit has been designed for yard and plant duty in bulk material handling. Mounting can be specified on a Case, Minneapolis-Moline, Oliver or Sheppard tractor.

The machine can fill a 5 cu. yd. truck or hopper in about 5 min. when it is equipped with a 1 cu. yd. bucket. The operating speed is assisted by the double acting hydraulic cylinders. They permit the operator to shake the bucket while it is in dump position.

Identify as IEN - 7978

Mico-No-Stuk is a new brake attachment for Yale industrial trucks. It is operated by a small toggle switch that is held in the direction of a spinning drive wheel. The switch actuates a mechanism that sets the brake on the spinning wheel independent of the wheel at the opposite side of the differential drive on the truck. This permits the truck drive to be applied only at the wheel that does have traction. Yale & Towne Manufacturing Company, 11002 Roosevelt Blvd., Philadelphia 15, Pa., will put it on new trucks or on its trucks now in service throughout industry.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7979

NO SCREWS, RIVETS, TACKS or TOOLS

PERMANENT PRODUCT IDENTIFICATION

IN JUST A FEW SECONDS

"AUTOGRAPHS" adhesive-back metal nameplates adhere *permanently* to wood, metal, paint, plastic . . . *any surface* . . . without tacks, rivets or screws . . . drills, hammers or skilled labor. A flick of a solvent-saturated brush, slight finger pressure and "AUTOGRAPHS" are ready to *start selling* and *keep selling* your name and your products *for life!*

Colorfully lithographed, eye-catching "AUTOGRAPHS" are produced in many sizes on many types of metal. Learn today how "AUTOGRAPHS" can put your name in front *in seconds* and keep it there *for years!*

ADVERTISING IMPRESSIONS THAT *STICK!*

WRITE TODAY on your letterhead for samples and literature. Dept. N-5.

METALcraft INC. MASON CITY, IOWA

If you write maker identify as IEN - 7980

SURETY'S TRIPL-PALM

Made Tough where the punishment's Rough

- Extremely heavy rough Vinyl coating on palm.
- Soft and pliable for hand comfort.
- Standard abrasion tests show Tripl-Palm will outwear by many times, the usual coated glove.
- All sizes and styles available from your jobber, or write direct.

NO SEAM HERE
WING THUMB CONSTRUCTION MULTIPLIES GLOVE LIFE

THE SURETY RUBBER CO.
CARROLLTON, OHIO

In Canada—Safety Supply Co., Toronto

If you write maker identify as IEN - 7981

GET MORE OUT OF YOUR SPRAYING EQUIPMENT WITH LESS POWER

For spraying, washing, rinsing, cooling and air conditioning, Yarway Spray Nozzles will improve the efficiency of your spray equipment.

There are no internal vanes or other restrictions to clog or hinder the flow.

Yarway Spray Nozzles are available in two types—the Yarway Involute producing fine hollow cone spray with minimum energy loss, and the Yarway Fan-spray for flat fan-shaped spray with time-saving slicing action for cleaning.

Wide range of standard sizes and capacities. Made of metal castings or machined from solid bar stock.

The 20-page Yarway Spray Nozzle Bulletin contains not only complete details on Yarway Spray Nozzles and Fittings, but also much helpful information on the many uses for spray nozzles. Ask for a free copy—Bulletin N-617.

YARNALL-WARING COMPANY
122 Mermaid Ave., Philadelphia 18, Pa.

YARWAY / spray nozzles

If you write maker identify as IEN - 7983

paint this "metal sunshade" on your roof!

AND REDUCE BELOW-ROOF HEAT 13° to 26° IMMEDIATELY

Brush or spray this non-staining, bright, seamless metallic "sun shade" on the roof and it *instantly* reflects up to 70% radiant heat away from the roof. Below-roof temperature drops as much as 26° *at once*. Factories, hotels, motels, showrooms use Tropical Roof Coolerant for summer comfort, economy. Users report up to 25% less load on air conditioning, freezer equipment!

Tropical Roof Coolerant lengthens roof life. Its larger aluminum flakes bond to roof, prevent drying, keep it flexible, free of cracks, leaks; add years to life!

FREE! **Get these low-cost benefits *right now!* Send for "Roof Coolerant" book and complete information TODAY!**

THE TROPICAL PAINT & OIL CO. SINCE 1883
1126-1238 W. 70th Street • Cleveland 2, Ohio

If you write maker identify as IEN - 7984

THERE ARE 101 REASONS WHY...

INDUSTRY USES MORE TRANSPORTERS

than any other operator-led electric truck

ASK FOR CASE HISTORIES LIKE THESE FROM YOUR INDUSTRY

Midwestern steel plant cuts steel lath handling time 85% (despite 46% increase in volume handled) with Automatic Transporters and transtackers.

Southern Machinery Mfr., Prattville, Ala., shows total increase of 600% in tons handled per man-hour with fleet of 8 Automatic Transporters. One man, instead of 1500 lb. loads, handles 4000 lb. loads 50% faster with 50% saving in round trip time in loading and unloading push trucks.

Here's the truck that does so many jobs so well all industry uses it. Yes, for 101 good reasons, but mainly because—by eliminating slow, costly hand-handling—it saves industry millions of dollars. See for yourself how the "101" Transporter raises, moves up to 6000 pounds with touch-of-finger ease...lets 1 man do work of 3...releases 2 out of 3 for more productive work. Get all the facts.

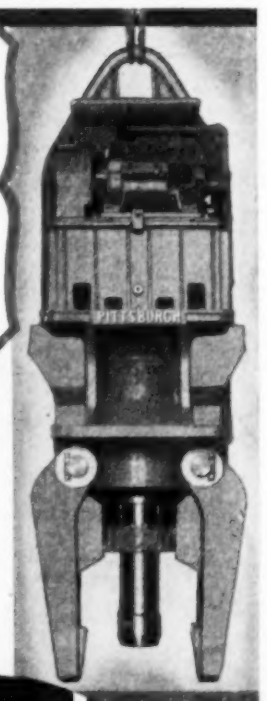
For case histories in your industry write:

Automatic®
109 West 87th St., Dept. K-3, Chicago 20, Ill.
WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC DRIVEN INDUSTRIAL TRUCKS

If you write maker identify as IEN - 7985

PORTABLE INGOT STRIPPER

can do your job



- MORE ECONOMICAL
- MORE FLEXIBLE *than conventional equipment*

Write today for complete technical data

pittsburgh ENGINEERING & MACHINE CO.
316 FARMERS BANK BLDG., PITTSBURGH 22, PA. • PLANT AT GLASSPORT, PA.
DIVISION OF PITTSBURGH STEEL FOUNDRY CORP.

If you write maker identify as IEN - 7986

TESTING . . Environment chamber ranges minus 125 to plus 300 deg. F.

Source: CONRAD INDUSTRIAL COOLERS
50-54 W. 4th St., Holland, Mich.

One of many designs

Equipment that is required to operate satisfactorily in a wide range of temperature can be placed for test in the 8 cu. ft. chamber of this new portable heating and refrigerating equipment. Leads and service lines are brought in through connections on the housing so the equipment can be operated while it is being subjected to heat and cold. Operation is observed in the illuminated interior through a frost proof window in the counterbalanced hinged lid.

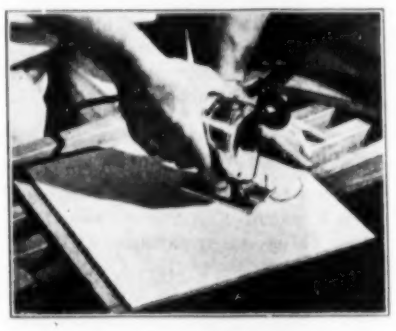
Two refrigerant compressors operate in cascade to bring the chamber temperature down to minus 125 deg. F., or any point short of that limit. Temperature can be held within 2 deg. F. of a set point. Connections are provided to heat rather than cool to a maximum of 300 deg. F.

Connections on the housing side and a built-in blower permit using the refrigerating equipment to serve a separate insulated cabinet for work that cannot be placed in the main unit. The cabinet is made of steel in welded assembly, stainless on the interior, rustproof galvannealed on the outside. The insulation is heat resistant to 600 deg. F. The low temperature insulation is expanded plastic, moisture and vapor proof for continued efficiency in service.

If you write maker identify as IEN - 7987

SAWING . . Portable electric tool for wood, rubber, plastics, metals

Source: BLACK & DECKER MFG. CO.
715 E. Pennsylvania Ave., Towson 4, Md.



Versatile

Five types of cutting blade are supplied for interchangeable application, depending on the work to be done, with this new Utility Jig Saw. The tool is driven by a universal motor for operation on 110-volt current. It connects through a three-conductor cord and plug. Control centers at a toggle switch.

The tool will follow a straight, irregular or curved outline. Its blade will pierce work for an internal cut so no starting hole is required. Capacity is rated to ½ in. in soft wood and to ⅜ in. in hard wood on continuous operation. It can cut, for brief intervals, to 1½ in. in soft and 1 in. in hard wood.

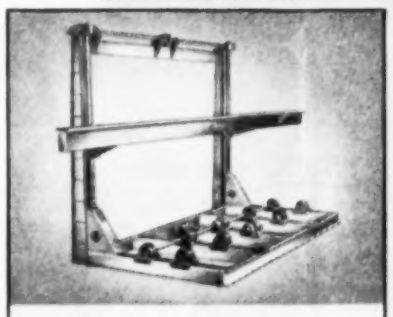
Length is 8 inches. Overall height, including the blade, is 7¾ inches. Weight is 3½ pounds. An accessory table can be supplied to mount the unit for bench work. A cutting attachment, with this table, enables the tool to make circular cuts from 2 to 13 in. in diameter.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7988

REED ENGINEERING COMPANY

Modern Metalworking Equipment



- BENDING ROLLS
- TURNING ROLLS
- AUTOMATIC WELDING FIXTURES

UNIT TYPE AUTOMATIC WELDING TURNING ROLLS

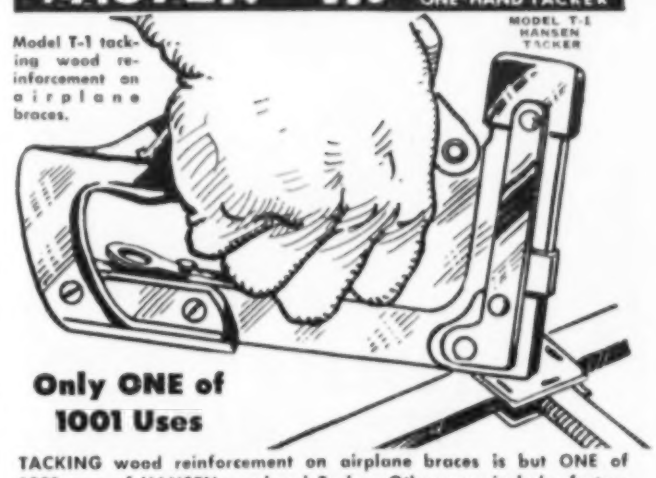
- ★ Combines adjustable track support and turning rolls into one fixture
- ★ In 5 standard models
- ★ Capacities up to 9 tons, 12 ft. diameters
- ★ Vertical and horizontal powered track adjustment on larger models

WE INVITE YOU . . . to write us for specifications, prices, list of REED users near you. No obligation. Just write on your letterhead.

REED ENGINEERING CO. 1009 W. FAIRVIEW CARTHAGE, MO.

If you write maker identify as IEN - 7989

YOU CAN DO IT FASTER with HANSEN ONE-HAND TACKER



Model T-1 tacking wood reinforcement on airplane braces.

Only ONE of 1001 Uses

TACKING wood reinforcement on airplane braces is but ONE of 1001 uses of HANSEN one-hand Tacker. Other uses include: fastening screens on TV sets, tacking radio and TV wires, refrigerator door gaskets, chair and auto-seat covers, insulation, etc.

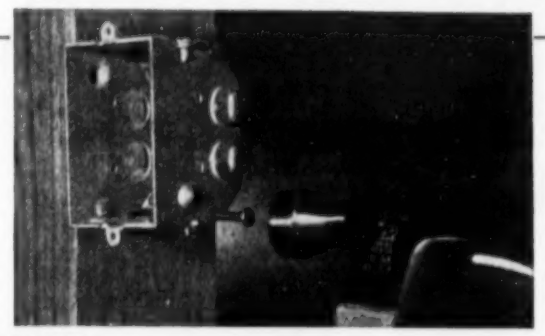
(MODEL T-3-4 HANSEN TACKER)

Made in . . . 36 different models; for driving . . . 80 sizes of staples, the Hansen line offers you a model suited to your *individual needs.*

A.L.HANSEN MFG. CO.
5051 RAVENSWOOD AVENUE • CHICAGO 40, ILL.

If you write maker identify as IEN - 7990

LEVELOCK SWITCH BOX



NOW faster mounting speed

DEEP LEVELOCK BOXES for nonmetallic or armored cable can be mounted in a hurry without taking them apart, because they have nail-through holes in addition to conventional sideplate nail holes.

For this booklet which describes the many new types that General Electric has added to its big line of boxes, write to Section C27-742, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

You can put your confidence in—

GENERAL ELECTRIC

If you write maker identify as IEN - 7991

THE PROBLEM

For their rocket engine research and production, Bell Aircraft Corporation was designing a new instrumentation system. Their problem was finding a way to meter the propellant consumption remotely.

THE BALDWIN SOLUTION

The fuel feed tank is suspended from a cable attached to a Baldwin SR-4, 160 lb. load cell which supports the weight of the tank and fuel.

This system benefits Bell in these three ways:

1. The fuel consumption can be indicated and controlled remotely because the only connection from the SR-4 cell to the instrument is through electric cable.

2. Because of special aluminum construction this cell resists corrosion by common propellants such as hydrogen peroxide and nitric acid provided that cell is washed off after any accidental contact with them.

3. The need for maintenance is virtually eliminated by the rugged construction and by the absence of moving parts.

The uses of SR-4 devices throughout industry are unlimited. For further information about how they might cut your costs and time for measuring loads, pressure or torque, please write Dept. 3113, Baldwin-Lima-Hamilton Corporation, Philadelphia 42, Pennsylvania.

TESTING HEADQUARTERS
BALDWIN - LIMA - HAMILTON
General Offices: Philadelphia 42, Pa. • Offices in Principal Cities

If you write maker identify as IEN - 7992

THIS PLANT

Provides **TOOLING**
and builds **SPECIAL MACHINES**

Thirty-four years of special machine and tool building has trained SEMCO tool-makers, engineers and skilled workmen—well able to most efficiently design, develop and build your new machinery and production equipment.

Write for a copy of our *Free Pamphlet — "Men, Machines and Equipment."* It gives a practical answer to your tooling, special machine development and experimental problems.

SEMCO
SERVICE MACHINE COMPANY
INCORPORATED
200 MILLER STREET ELIZABETH, N. J.

If you write maker identify as IEN - 7993

MILL IT *faster..* SAVE LABOR!

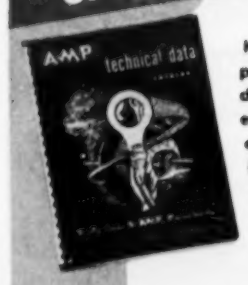
Kent-Owens advanced features mean *speed, accuracy* and *dependability*... in tool room or production milling. Rugged . . . simple in design and operation. Saves labor . . . reduces costs! Write for bulletins on wide range of hydraulic and hand-operated machines. Kent-Owens Machine Co., Toledo, Ohio.

No. 2-20 Milling Machine
Table, 42" x 12"
Table travel, 20"

KENT-OWENS
Milling Machines

If you write maker identify as IEN - 7994

NEW AMP TECHNICAL CATALOG of SOLDERLESS WIRING!



Here, for the first time, is a complete 78 page catalog of technical information devoted solely to *solderless wiring*. AMP's engineering and research facilities are outlined together with test data covering altitude, corrosion, comparative resistance, low currents, radio and audio frequencies, etc. Actual case studies are included which give savings in time and labor in typical applications. Send for your catalog today!

AIRCRAFT-MARINE PRODUCTS INC.
2100 PAXTON STREET, HARRISBURG, PA.
AMP Trade-Mark Reg. U. S. Pat. Off.

NEW LITERATURE

Brief reviews to advise you of available new information published by the manufacturers covering products they offer for your use. Each includes identification, size of the material, information it contains so you can judge its value to you.

Identify as IEN - 0468

ADHESIVES . . And sealing materials used in automobile manufacture are pictured in use by 12-page Bulletin Z-AMM. Attaching weatherstrip, bonding sound-deadener pads, sealing welded joints and windows are typical. Minnesota Mining & Mfg. Co., 423 Piquette Ave., Detroit 2, Mich.

Identify as IEN - 0469

AIR CONDITIONING . . 75 places where you can use air conditioning to advantage in your plant are listed in new 4-page Bulletin SP-79-2614. It deals with package-type conditioners for individual rooms or departments. General Electric Co., 3-7 Lawrence St., Bloomfield, N. J.

Identify as IEN - 0470

BATTERIES . . "Eveready" units for portable electronic equipment, 1.5 to 300 volts. Sizes, current ranges, terminals in 4-page Battery Engineering Bulletin 1. National Carbon Co., 30 E. 42nd St., Room 308, New York 17, N. Y.

Identify as IEN - 0471

BALL BEARINGS . . Instrument type, with bore from .025 to $\frac{5}{16}$ in. and outside diameter from .100 to ½ inch. Dimensions on 137 sizes, load ratings, handling, mounting in 32-page Catalog 53, available on letterhead request. New Hampshire Ball Bearings Inc., Grove St.-B, Peterborough 1, N. H.

Identify as IEN - 0472

ELECTRIC CABLE . . For power distribution in chemical plants is covered by 20-page Bulletin 19-312 with selection suggestions by voltage class, notes on resistance. General Electric Co., 1283-87 Boston Ave., Bridgeport 2, Conn.

Identify as IEN - 0473

ELECTRIC CABLE . . For chemical and petroleum-industry service is described by 76-page Booklet W-52-8 as to materials, ratings, uses, along with data tables. United States Rubber Co., 1230 Sixth Ave., New York 20, N. Y.

Identify as IEN - 0474

ELECTRIC CABLE . . Coaxial types for high-frequency use, TV antenna wire, hookup wire, shielded microphone cable, building wire. Catalog PM-3, 24 pages. United States Wire & Cable Corp., Monroe & Progress Sts., Union, N. J.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 7995

Photo courtesy Clearing Machine Corp.

this has a BEARING on the subject

TRABON *automatic* lubrication on this Clearing forging press lubricates 36 bearing points while the press operates under full load.

A TRABON trouble-free system on *your* equipment will do the same job efficiently and positively.

Fully hydraulic . . . economical . . . for oil or grease . . . safe . . . completely sealed.

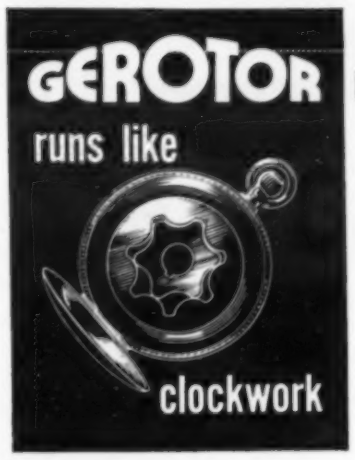
There are more Trabon Automatic Lubrication Systems in use than all other makes!

Write for Bulletin No. 529

Trabon ENGINEERING CORPORATION
Oil and Grease Systems

If you write maker identify as IEN - 7996

the GEROTOR mechanism



because it's
PRECISION engineered

In every GEROTOR pump, precisely paired gear-shaped elements transmit power from the shaft with high efficiency. These elements, revolving in the same direction at low relative speed, constitute the unique GEROTOR mechanism . . . famed for long life, less wear, less slippage, dependably smooth performance
Gerotor May Corp., Baltimore 3, Md

GEROTOR hydraulic pumps

If you write maker identify as IEN - 7997

new Baker gas-O-matic FORK TRUCK

Revolutionary gas-powered Fork Truck with built-in generator and electric drive.

SMOOTHER ACCELERATION! BETTER "INCHING"! LOW INITIAL COST! LESS MAINTENANCE!

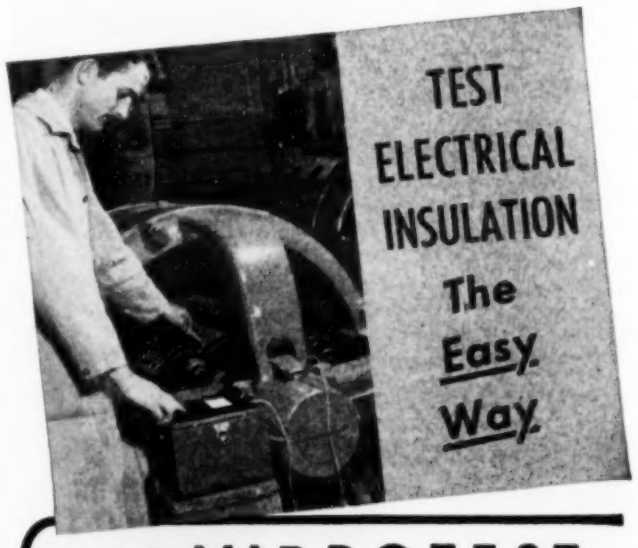
GAS-O-MATIC has no clutch or gear shift, and no electric controller, thus eliminating "step-ladder" acceleration and maintenance headaches. Greatest fuel economy of any gas truck!

Uses 40% less fuel than other gas trucks!

Baker industrial trucks

write for descriptive bulletin No. 1344
THE BAKER-RAULANG COMPANY
1226 W. 80th STREET • CLEVELAND 2, OHIO
BAKER-LULL Corp., *Subsidiary*, Minneapolis, Minn.
Material Handling and Construction Equipment

If you write maker identify as IEN - 7998



with VIBROTEST

TESTING your motors and other electrical equipment with Vibrotest not only saves hard manual labor; but also assures you of accurate readings at the touch of a button. Vibrotests are fully portable, rugged, and thoroughly dependable. Numerous Vibrotest Models to choose from—many with volts and ohms ranges in addition to megohm ranges. Act now to get easier, better, faster insulation resistance testing.

- Push-button operation
- No Cranking
- No Leveling
- Instant Action

Write for Bulletin 2A

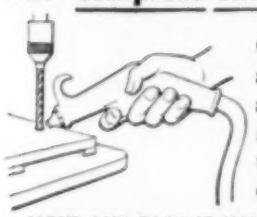
ASSOCIATED RESEARCH, *Incorporated*
"Precision Instruments • Since 1936"
West Belmont Avenue, Chicago 18, Illinois

If you write maker identify as IEN - 7999

Only this Quick-Cleaning

Bully-Blow Gun

has Complete Air Pressure Control



● Where air is used to clear away chips, shavings, filings, and moisture, the exclusive metering trigger produces just the amount of air the operator wants.

LIGHT AND EASY-TO-HANDLE The Bully Blow Gun weighs only 7 ounces and is shaped to fit securely in the hand of the operator.

LAST FOR YEARS Made of high-strength aluminum, the Bully Blow Gun stands up under hard use and won't rust or corrode.

NO UPKEEP NOR REPAIRS Bully metering trigger can not leak, eliminates discs, stuffing boxes and springs. There's nothing to wear out.

WRITE TODAY FOR DETAILS Complete information available on the Bully Blow Gun, Bully Fulflo Air Filter, and the Big (50 Oz.) and Bantam (22 Oz.) Bully Air Hammers.

Superior Pneumatic & MFG. INC.
4758 WARNER ROAD
CLEVELAND 25, OHIO

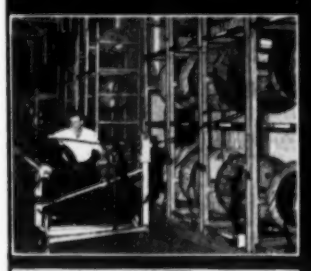
If you write maker identify as IEN - 8000

COLLAPSIBLE STOCK BOXES • ROLL RACKS • BULKHEADS

Well Stacked!

Let our rack specialists assist you in planning your new system to incorporate special economies in unit load handling—in production—in storage, regardless of the type material or product or unusual condition involved.

Our strong square tubular EMI racks save floor space and do it in the most efficient way.



Write for our catalog

STOCK RACKS • PALLET RACKS • PALLETS

COIL RACKS • REEL RACKS

DOLLY TRUCKS

EMI EQUIPMENT MFG. INC.

21564 Hoover Road • Detroit 5, Michigan

NEW LITERATURE—Continued

Identify as IEN - 0475

CAPACITORS . . Custom-built units and pulse-forming networks use Amplifilm synthetic dielectric, chemically similar to mica. Design and test data with an inquiry form in 28-page booklet, "Capacitron". Aircraft-Marine Products Inc., 2102 Paxton St., Harrisburg, Pa.

Identify as IEN - 0476

CAPACITORS . . Ceramic disc type with silver electrodes bonded by furnace firing comes in general-purpose, temperature-compensating and Hi-K bypass designs. Ratings and uses in 8-page "Hi-Kon Ceramic Capacitors" bulletin. Radio Ceramics Corp., 107-11 S. Superior St., Angola, Ind.

Identify as IEN - 0477

DUCTILE IRON CASTINGS . . Pearlitic, ferritic, austenitic grades of ductile iron and their uses are described in 12-page Bulletin H-101 along with physical properties as compared to other metals and a check list. American Brake Shoe Co., 230 Park Ave., 18th Flr., New York 17, N. Y.

Identify as IEN - 0478

CLAMPS . . Castaloy laboratory appliances to hold burettes and other laboratory apparatus, Flexaframe support lattices, hose clamps. Catalog FS-228, 24 pages. Fisher Scientific Co., 719 Forbes St., Pittsburgh 19, Pa.

Identify as IEN - 0479

CLAMPS . . Tool and die-makers' accessories including hold-down clamps, flanged nuts, spherical washers, jig feet, hand knobs, latch bolts. A chart lists T-nut and stud sets by milling machine maker. Catalog 21, 4 pages. Northwestern Tool & Eng. Co., 124 Hollier Ave., Dayton 3, Ohio

Identify as IEN - 0480

BLAST CLEANING . . Hand-directed hose-type machines that use dry abrasive, wet abrasive, and soft abrasive such as corn cob grits. How to select them and the applications of several types are covered by 28-page Bulletin 100-A. Pangborn Corp., 230 Pangborn Blvd., Hagerstown, Md.

Identify as IEN - 0481

CLEANING MATERIALS . . Compounds for metal-finishing production including cleaning, phosphating, spray-booth and paint-stripping materials. "Engineered Service", 12 pages. Pelron Corp., 7710 W. 47th St., Lyons, Ill.

Identify as IEN - 0482

CENTRIFUGAL CLUTCH . . Thirteen sizes rate .04 to 300 hp. at 390 rpm. for a unit that will allow an engine or motor to come up to speed before engaging. It also limits the load. Modifications in 4-page Bulletin 130-R. Centric Clutch Co., State & Main St., Route 35, Woodbridge, N. J.

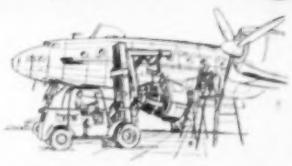
Identify as IEN - 0483

COMMUTATOR TOOLS . . Dressing stones, rubber-abrasive tools, brush seaters; stock sizes, list prices and instructions for use in 24-page Catalog 20. Co-Operative Utilities Co., 4635-41 Mulberry St., Philadelphia 24, Pa.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8002

TWA finds new low-cost seal to protect engine openings



Polyken Tape No. 113 quickly seals exhaust ports while engines are being overhauled at the TWA Overhaul Base, Fairfax Field, Kansas City, Kansas.

While the giant engines of TWA transports are being overhauled, all the exhaust and carburetor ports are open invitations to damage by dust and foreign matter. Wooden plugs didn't do the job. They were expensive, took a lot of time to fit, and didn't always form a complete seal. *Polyken* Tape No. 113 solved the problem. Now all the engine openings are sealed with this *Polyken* Tape. The seal is complete, quickly made, much cheaper.

This is just another example of the way industry is finding new money-saving uses for *Polyken* Tapes. Write for free samples and complete information. *Polyken*, Dept. IEG, 222 West Adams St., Chicago 6, Ill.

Polyken®

INDUSTRIAL TAPES

Department of Bauer & Black · Division of The Kendall Company

If you write maker identify as IEN - 8003

KLIXON PROTECTORS

Help Allen Organ make sweet music

by preventing motor burnouts

The Allen home organ represents a new and distinct achievement in the industry. It will produce directly from the keyboard true bell tones such as Chime, Glockenspiel, Music Box as well as Marimba tones, Harp tones, etc., through the regular organ mechanism.

To keep the motor operating in the "Gyrophonic" speaker mechanism Allen Organ Company uses motors with built-in *Klixon Protectors.*

Here's what Mr. Jerome Markowitz, president, has to say about Klixon Protectors:

"We insist that the motor which is included in the "Gyrophonic" speaker mechanism of our electronic organ be equipped with Klixon overheat protectors. This not only offers motor protection, but also prevents disintegration of the morale of a customer whose instrument 'burns out.'"

You, too, can provide your dealers and consumers with motor burnout protection by requesting and specifying that your motor manufacturer supplies you with motors that have Klixon protectors built in. The additional cost is exceptionally low, while the benefits are extremely high.

SPENCER THERMOSTAT
Division of Metals & Controls Corporation
207 Forest St., Attleboro, Mass.

KLIXON

If you write maker identify as IEN - 8004

OUTPUT JUMPS 110%

with Millers Falls "Adjustomatic"® Clutch Electric Screw Drivers

Driving tiny, self-tapping screws in a thin plastic housing — it's the kind of job usually considered too delicate for power drivers.

Yet, Millers Falls No. 52's with the patented "Adjustomatic" Clutch are performing this operation speedily, accurately — without splitting the plastic walls — without stripping threads. And — production has more than doubled.

Ruggedly-built, vibrationless, power-packed, these remarkable drivers have a velvet touch. Torque adjustment can be set within inch-ounces — and stays put month after month.

If you want to speed up your own driving operations, write for full details on the Millers Falls broad line of high-production "Adjustomatic" Clutch Drivers — or let us arrange for a convincing demonstration.

MILLERS FALLS TOOLS
The Mark of Superiority

MILLERS FALLS COMPANY
Dept. P, Greenfield, Mass.

If you write maker identify as IEN - 8005

WATSON-STILLMAN

HYDRAULIC POWER TOOLS FOR INDUSTRY

Send for your copy of Bulletin A-5 . . . It's Free.

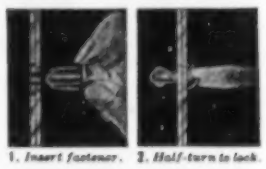
WATSON-STILLMAN FITTINGS DIVISION
H. K. PORTER COMPANY, INC.
Roselle, New Jersey

If you write maker identify as IEN - 8006

This fastener works through thick and thin!

Spring-Lock works whether panel thicknesses run over or under specifications! Spring wire deflects automatically to handle greater or lesser thicknesses. Spring-Lock's design flexibility makes it more than a fastener: it can be adapted as a shelf support, door strike, knob or any similar panel-mounted device. Many standard shapes and sizes of Simmons Spring-Locks are available from stock.

HERE'S HOW SPRING-LOCK WORKS



1. Insert fastener. 2. Half-turn to lock.

- Installation is BLIND
- Installation is EASY: no special tools are needed
- Installation is QUICK: a half-turn locks it in place
- Installation is SECURE: the *spring* steel *locks* the fastener, resists vibration

Send for details and samples, or write us about *your* fastening problem.

SIMMONS FASTENER CORPORATION
1758 North Broadway, Albany 1, N. Y.
Spring-Lock • Quick-Lock • Roto-Lock

If you write maker identify as IEN - 8007

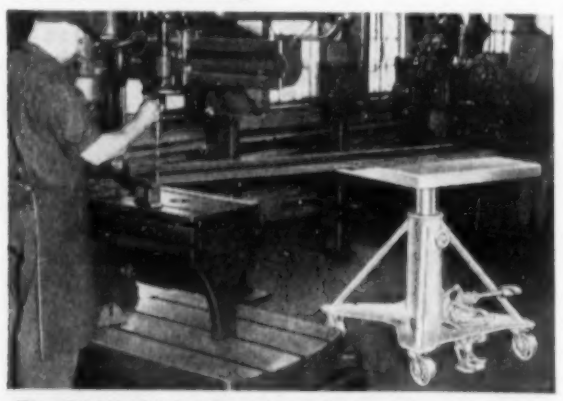
He "Positions" his work

. . . you can too, with

RAYMOND

PORTABLE ELEVATING TABLE

Take a tip from your barber and elevate your work to the most convenient working level! Get a RAYMOND Portable Elevating Table . . . you'll use it for die handling, sheet feeding, work positioning, loading and unloading.



The RAYMOND Elevating Table employs hydraulic power to do all your lifting and lowering. Sturdy 30" square top can be rotated when desired—convenient foot pump frees operator's hands. Smooth-rolling casters make table highly portable. Floor lock holds it securely in place. Standard Model elevates from 28" to 44"—Telescopic Model from 28" to 50". Both have 2,000 lb. capacity.

GET THIS BULLETIN Mail coupon today . . . and we'll send you Bulletin 232, describing RAYMOND Portable Elevating Tables in detail!

The RAYMOND CORPORATION
3509 Madison Street, Greene, N.Y.

Please send me Bulletin 232 on your Portable Elevating Table.

NAME_____ TITLE_____
COMPANY_____
STREET_____
CITY_____ STATE_____

NEW LITERATURE—Continued

Identify as IEN - 0484

COMPRESSOR . . Liquified gases such as anhydrous ammonia and LPG are transferred from tank car to storage tank by Class-LPG compressor. Little sequence diagrams in 4-page Bulletin 1052-A show four successive steps employed. Ingersoll-Rand Co., 746 Morris Ave., Phillipsburg, N. J.

Identify as IEN - 0485

COMPRESSORS . . Air and gas models, oil-free non-lubricated models, vacuum pumps, centrifugal pumps in the company's line are summarized in 6-page Bulletin 546 with references to detail literature on each. Pennsylvania Pump & Compressor Co., 50 Bushkill Drive, Easton, Pa.

Identify as IEN - 0486

FLEXIBLE CONDUIT . . Liquid-tight to carry electrical wiring in wet locations, outdoors, on machinery subject to vibration. Sealtite has a galvanized steel core, positive ground, synthetic cover. Bulletin UA-530, 4 pages. American Metal Hose, 696 Main St., Waterbury, Conn.

Identify as IEN - 0487

ELECTRIC CONNECTORS . . Quick-acting positive-pressure units for high-current single-circuit use. How they work is shown by drawings and performance curves in 12-page Bulletin 3-4-1 titled "Williamsgrip Connectors." AiResearch Mfg. Co., 9849-53 Sepulveda Blvd., Los Angeles 45, Calif.

Identify as IEN - 0488

ELECTRIC CONNECTORS . . Crimp-type lugs and splice fittings for electric conductors, hand crimping tools, also molded terminal blocks, conduit bushings, hole plugs. Catalog 53, 16 pages. Buchanan Electrical Products Corp., 225-A Highway No. 29, Hillside, N. J.

Identify as IEN - 0489

ELECTRIC CONNECTORS . . Contact fingers in strip or ring form to ground or connect high-frequency components. Catalog 7-A, 8 pages, gives standard types and contours for beryllium-copper units, also sub-miniature tube contacts. Instrument Specialties Co., 251 Bergen, Little Falls, N. J.

Identify as IEN - 0490

ELECTRIC CONNECTORS . . Ordnance-type waterproof design are electrically efficient, cold and heat resistant, fungus proof and corrosion resistant. Types and assembly instructions in 12-page bulletin. Kingston Products Corp., Douglas Mfg. Div., 453 Kingston Ave., Bronson, Mich.

Identify as IEN - 0491

CONSTRUCTION . . Rubora concrete form is a lazy-tongs grid that is expanded to the desired panel size and covered with heavy paper for rough work or composition board for smooth surfaces. New 8-page bulletin tells about it. Kurt Orban Co., 204 E. 43rd St., New York 17, N. Y.

Identify as IEN - 0492

PROCESS CONTROLS . . Measuring elements, meters, recorders, control instruments and equipment for 15 process variables from combustion to weight. Bulletin 18, 16 pages summarizes them in tabular form to assist selection. Bailey Meter Co., 1022 Ivanhoe Road, Cleveland 10, Ohio

Identify as IEN - 0493

PROCESS CONTROLS . . Catalog of 84 pages on electric, electronic and pneumatic controls for temperature, pressure and humidity along with pneumatic and electric valves, switches and relays. Catalog 8305. Minneapolis-Honeywell Regulator Co., 4456 Wayne Ave., Philadelphia 44, Pa.

Identify as IEN - 0494

TEMPERATURE CONTROL . . Indicating pyrometer with Free-Vane electronic control is supplied for temperatures from 800 to 2,400 deg. F. Components, types of control action, scale ranges in 8-page Bulletin P-1248. Bristol Co., Griggs & Kelsey Sts., Waterbury 20, Conn.

Identify as IEN - 0495

VISCOSITY CONTROL . . Recording viscometer with range of .2 to 200,000 centipoises is described as to operating principle, models, performance in 8-page Bulletin V. Norcross Corp., 245-49 Newtonville Ave., Newton 58, Mass.

Identify as IEN - 0496

PACKAGE CONVEYORS . . Power belt models to handle all sorts of products on the level or up an incline. Sixteen-page Bulletin 400 reviews them, shows gravity conveyors also. A. B. Farquhar Co., 140-44 N. Duke St., York, Pa.

Identify as IEN - 0497

DOOR OPERATORS . . "Magic Door" controls to open and close by compressed air, using pushbutton photoelectric, pull cord, floor-switch actuation. Installation pictures and suggestions in 16-page Bulletin 21-14. Stanley Works, Magic Door Div., 193-97 Lake St., New Britain, Conn.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8009

NEED GEARS?

250,000 cost-wise industrial buyers agree . . .

Best Buy is BOSTON Gear
STANDARD STOCK GEARS

Over 2000 types and sizes in stock.
Metal—Non-metallic—Fabroil.

In Stock at your nearby

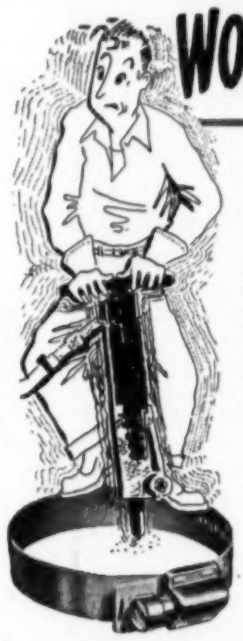
BOSTON GEAR DISTRIBUTOR

Catalog on request. Ask your Boston Gear Distributor, or write: Boston Gear Works, 63 Hayward Street, Quincy 71, Mass.

If you write maker identify as IEN - 8010

AERO-SEAL WORM-DRIVE HOSE CLAMPS

WON'T SHAKE LOOSE!



Wherever you have to clamp a hose connection tight . . . or wherever you want to lock two objects of any shape together in an unshakeable bond . . . your best bet is AERO-SEAL.

Threads of steel worm engage deep into slots in stainless steel band—hold tight under extreme vibration in automotive, aircraft and industrial applications. CAN'T SHAKE LOOSE.

One-Hand Installation
Install an Aero-Seal any place you can reach with thumb and one finger. Self-feeding when band engages worm threads. Thumb-grip and screwdriver types.

Re-use Again and Again
When hose is worn you RE-USE the same Aero-Seal again and again. RE-USE Aero-Seals on temporary clamping jobs—they conform to any shape without damaging band.

Use of Stainless Steel Subject to Government Regulations

"Aero-Seal" WORM DRIVE HOSE CLAMPS

ANOTHER BREEZE MARS PRODUCT

BREEZE CORPORATIONS, INC.
41 South Sixth St. Newark, N. J.

If you write maker identify as IEN - 8011

Your ONE source for ALL centers!

best choice . . . . productionwise!

• Ready Tool Company is the world's largest manufacturer of precision engineered centers . . . all exclusive developments of RED-E engineers. Varied sizes, tapers and shanks for EVERY NEED . . . guaranteed to reduce operating costs, increase production, eliminate maintenance. Write for literature.

CENTER *Specialists since 1908*

READY TOOL COMPANY
554 Iranistan Ave.
Bridgeport 5, Conn.

If you write maker identify as IEN - 8012

If you write maker identify as IEN - 8013

Over 1700 installations in every kind of steam process work, prove that the Cochrane "JET" principle of condensate drainage steps up production, cuts fuel costs and improves quality.

Up to 35% increase in production has been achieved. The Cochrane "JET" unit removes "insulating" layers of condensate from all types of steam processing equipment continuously and effectively. It produces faster, more efficient heat transfer; eliminates cold starts; speeds cooking, drying and curing cycles.

Improved product quality. The Cochrane "JET" unit levels out heat fluctuations—maintains uniform intense heat transfer, producing better quality product in less time.

Lower fuel and maintenance costs. The Cochrane C-B system chops fuel costs by 10% or more returning condensate to the boiler or "make-up" system without appreciable pressure or temperature drop—cuts make-up water requirements—eliminates flashing—reduces boiler room maintenance, automatically separates entrained air and corrosive gasses from returned condensate.

Write today for full information on how a Cochrane C-B High Pressure Condensate Drainage Control System can help you when used with . . .

Platen Presses	Vulcanizers	Tumblers
Jacketed Kettles	Tube Dryers	Coil Cookers
Dry Cans	Ironers	Drum Dryers
Expellers	Dry Plates	Spray Dryers
Drying Rolls	Unit Heaters	Presses
Coil Dryers	Jacketed Mixers	Digesters
Stills	Paper Machines	Heating Systems

cochrane
corporation
3152 N. 17th Street, Philadelphia 32, Pa.

If you write maker identify as IEN - 8015

TRUCK . . Engine powered fork lift, electric generator and motor drive

Source: BAKER-RAULANG CO.
1248-52 W. 80th St., Cleveland 2, Ohio

Ask for Bulletin 1344

Gas-O-Matic trade names a new 2-ton fork lift truck in which a **Hercules** gasoline engine is directly coupled to the company's own design of variable voltage generator. When the operator increases speed at the engine the voltage rises to increase speed correspondingly in the truck-driving electric motor. Travel direction is controlled by "forward" and "reverse" foot buttons so the operator's hands are free to steer and operate the lift and tilt movements. The motor generator assembly is designed so the engine speed can not be excessive. Smoothness of acceleration and "inching" control compares with that of a hydraulic-transmission motor vehicle.

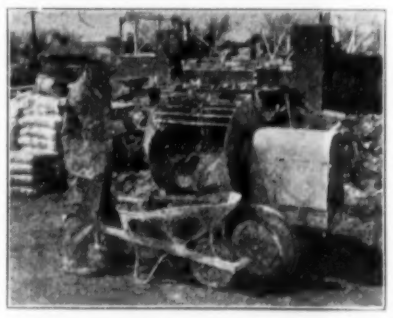
Exhaust from the engine is into a chamber where the gas fumes are diluted with air. The mixture is directed up and away from the operator to eliminate any danger of carbon monoxide poisoning. The operator rides in seated position, off-set a little to the left of center to provide good visibility ahead as well as to either side. A new patented trailing axle permits the truck to move smoothly over obstructions and uneven surfaces. Load lifting and tilting are hydraulic.

The truck measures 123 by 39 by 83 in. in lowered position. It turns in a 78-in. radius to operate in 69-in. intersecting aisles. Maximum travel speed is 8 miles per hour. Weight is 7,500 pounds with standard equipment.

If you write maker identify as IEN - 8016

CONSTRUCTION . . Engine driven mixer for plaster and mortar rates 6 cu. ft.

Source: CHAIN BELT CO.
4703 W. Greenfield, Dept. PR, Milwaukee 1, Wis.



No skill required

The paddle shaft in this new mixing machine is mounted on pre-lubricated anti-friction bearings and is chain connected through a reduction gear to a single cylinder air cooled Wisconsin engine. The paddle provides criss-cross mixing action. The drum tilts for discharge into a wheelbarrow or mortar box. A bag cutter is located over the drum.

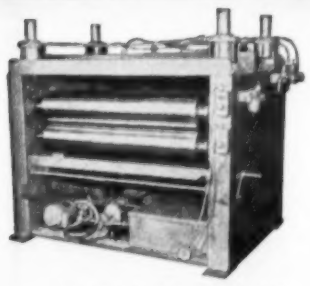
A feature in the construction is the telescoping axle which can be extended to 40 in. in width for fast towing from one job to another and can be retracted so the mixer will move through a 33-in. doorway into a building.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8017

UNION AUTOMATIC COMPOUND SPREADERS

SAVE *8 WAYS



1 "Die life increased 75%."
2 "Production increased 20%."
3 "Compound saving of 16%."
4 "Rejects reduced 10%."
5 "One helper eliminated."
6 "Paid for itself in 54 days."
7 "Able to use salvage stock for some operations."
8 "25,000 more pieces before changing dies."

MODELS TO FIT ANY STOCK UP TO 96" WIDTH

Union is the foremost designer and manufacturer of roller coating machines for application of drawing or stamping compounds and protective coatings.

Models may be equipped with hardened steel, or with neoprene-covered rolls—also with heated or cooled rolls—to meet your individual requirements.

*The above claims are based on actual statements by users, both large and small—a number of whom have ordered a second and third machine.

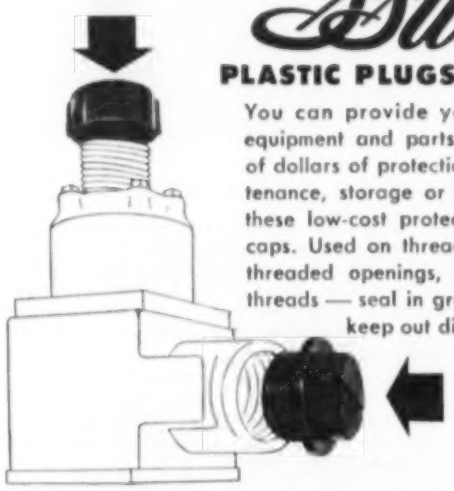
Complete data and agent's name on request. Union will design and/or manufacture coating machines to meet your specific requirements.

UNION TOOL CORP.
320 E. MARKET ST., WARSAW, IND., U.S.A.

USERS SAY UNION CUTS COSTS, SPEEDS PRODUCTION

If you write maker identify as IEN - 8018

STOP COSTLY DAMAGE
with these inexpensive



S.S.White
PLASTIC PLUGS and CAPS

You can provide your expensive equipment and parts with hundreds of dollars of protection during maintenance, storage or equipment with these low-cost protective plugs and caps. Used on threaded studs or in threaded openings, they safeguard threads — seal in grease and oil — keep out dirt and moisture.

WRITE FOR BULLETIN P-5203
It has full details on the many sizes and styles of S.S.White plastic plugs and caps.

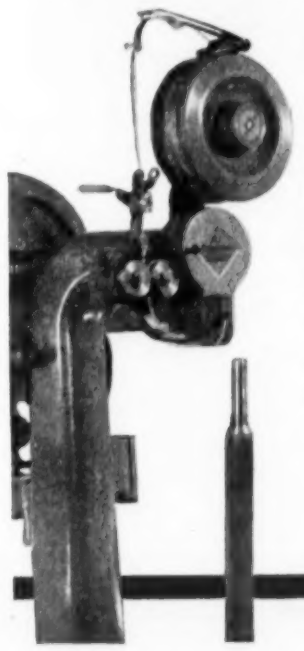
THE S.S.White PLASTICS DIVISION
DENTAL MFG. CO. Dept. NP, 10 East 40th St. NEW YORK 16, N. Y.

WESTERN DISTRICT OFFICE: Times Building, Long Beach, California

If you write maker identify as IEN - 8019

Add an Acme Steel 25-pound coil holder
to your present wire stitching equipment

Stitch 2½ times longer without stopping

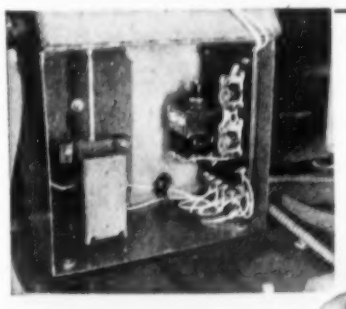


The rugged new Acme Steel 25-pound coil holder means less down time on your wire stitching operations, both because it holds 2½ times as much wire as the conventional 10-pound coil holder, and because it's easier and faster to load. Features are tangle-free wire feed and positive shoe-type brake. For details, write Acme Steel Products Division, Dept. IEN-73, Acme Steel Company, 2840 Archer Avenue, Chicago 8, Illinois.

STITCH IT... STRAP IT... SHIP IT... SAFELY!

ACME STEEL

If you write maker identify as IEN - 8020



"Years of service— and over a million operations a year"
D. W. Onan & Sons Inc.

AGASTAT
light . . . versatile
TIME DELAY RELAYS

AGASTATS are used by Onan to prevent starting of their standby plant on momentary power failure, to prevent stopping of the plant until power has returned for a given time, and on some lugging presses that operate over a million times a year. Onan reports several years of service with a minimum of attention.

AGASTATS are solenoid actuated and pneumatically timed. They are light, compact, dustproof and can be furnished to operate mounted in any position. There is an AGASTAT model that is right for your needs.

Write for Bulletin Dept. A2-72.

AGA

Division of Elastic Stop Nut Corporation of America
1027 Newark Avenue, Elizabeth 3, New Jersey

If you write maker identify as IEN - 8021

HANDY HELPER FROM ANY ANGLE

'Tugit' is tops for all lifting, pulling, stretching jobs where space is limited. Small, light, portable, it operates smoothly from any angle. Built like a hoist with efficient gearing, automatic load brake and anti-friction bearings, 'Tugit' is easy on muscles, fast and safe to use. A 40-lb. pull on the lever lifts a one-ton load — spots it as close as 3/32 of an inch.

If your maintenance and repair jobs, construction, road or service work call for lifting, stretching, tightening — 'Tugit' is the handiest tool you can use. It fits into any toolbox. Available in 1 and 2 ton sizes. For complete details, write for Bulletin No. 388.

'TUGIT'® HOISTS

MANNING, MAXWELL & MOORE, INC.
MUSKEGON, MICHIGAN

Builders of "Shaw-Box" and 'Load Lifter' Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties. Makers of 'Ashcroft' Gauges, 'Hancock' Valves, 'Consolidated' Safety and Relief Valves, 'American' Industrial Instruments, and Aircraft Products.

If you write maker identify as IEN - 8022

When you buy a bronze valve, take a good look at the hexes on the pipe ends. Is there room for a full grip with a wrench? Also, look inside an end to see whether there are enough threads to prevent jamming the valve seat when pipe is installed. Look at the parts where weight counts -- pipe ends, centerpiece, neck of body -- and make sure they are heavily made. Grip the handwheel to see how easily it fits your hand.

You'll find all the best features in any O-B valve.

OHIO BRASS COMPANY MANSFIELD OHIO

Ohio Brass VALVES
MANSFIELD, OHIO

If you write maker identify as IEN - 8023

ELASTIC STOP NUT CORPORATION OF AMERICA
Dept. R17-753, 2330 Vauxhall Road, Union, N. J.

Please send me free design information on

ROLLPIN
TRADE MARK

. . . the slotted tubular steel pin with chamfered ends used for production economies in replacing

☐ a rivet ☐ a set screw
☐ a hinge pin ☐ a bolt and nut
☐ a stop pin ☐ a cotter pin
☐ a taper pin ☐ a dowel

NAME_____ TITLE_____
FIRM_____
STREET_____
CITY_____ ZONE_____ STATE_____

NEW LITERATURE—Continued

Identify as IEN - 0498

DRILLING MACHINE . . For precise layout, drilling, reaming and boring of holes in material to 36 in. in width and any length. Setups, optical gaging system, standard and deluxe models in 8-page Catalog DM. Wales-Strippit Corp., 361 Payne Ave., North Tonawanda, N. Y.

Identify as IEN - 0499

DRILLING TOOLS . . Catalog 105 has 176 pages of information on drills, reamers, countersinks, carbide tools, tool bits and specials. Please use your company letterhead. Whitman & Barnes, 40602 Plymouth Road, Plymouth, Mich.

Identify as IEN - 0500

VARIABLE SPEED DRIVE . . Stepless electric drive, ¾ to 3 hp., that operates on ac. with a remote-located control station. Bulletin D-2102, 12 pages, gives hp.-torque curves, shows applications. Reliance Electric & Engineering Co., 1111 Ivanhoe Road, Cleveland 10, Ohio

Identify as IEN - 0501

ELECTRICAL PRODUCTS . . Fiftieth-anniversary booklet shows what the company makes in the way of meters, instruments, switchgear. "Looking Forward", 20 pages. Roller-Smith Corp., 1758-62 W. Market St., Bethlehem, Pa.

Identify as IEN - 0502

ELECTRONIC CORES . . Strip-wound units of grain-oriented silicon iron in matched C-shaped pairs for transformers, inductors, magnetic amplifiers. Data sheets CC-200-1 and CC-205 bring 14-sheet "Cee Cor" file folder up to date. Permoflux Corp., 4902 W. Grand Ave., Chicago 39, Ill.

Identify as IEN - 0503

ELECTRONIC CORES . . Made of tape-wound OrthoSil oriented silicon iron for saturable reactors, transformers and similar products. Bulletin WC-353, 12 pages, has performance curves. Thomas & Skinner Steel Products Co., 1163 E. 23rd St., Indianapolis 5, Ind.

Identify as IEN - 0504

ELECTRONIC PARTS . . Transistors in point-contact and junction types. How they work, typical circuits, characteristics and operating notes in 8-page Form SCD-104. Radio Corp. of America, 413-17 S. 5th St., Harrison, N. J.

Identify as IEN - 0505

ELEVATORS . . Hydraulic lifts, hinged ramps, bridge lifts, hydraulic elevators. Collection of case-history examples such as precise positioning of a pump in a dynamometer test in 28-page "Case Studies". Globe Hoist Co., Queen St. at Mermaid Lane, Philadelphia 18, Pa.

Identify as IEN - 0506

PANTOGRAPH ENGRAVER . . Portable machine does two-dimensional engraving and three-dimensional duplicating from a master template. Type faces, accessories, recommended assemblies, cutter sharpener in 12-page Catalog 53. Mico Instr. Co., 81 Trowbridge St., Cambridge 38, Mass.

Identify as IEN - 0507

FASTENINGS . . Aircraft hardware including bolts, nuts, screws, washers, rivets, clamps, control-rod fittings, gaskets, drain valves, piano hinge, grommets. Catalog 21-A, 72 pages of description and 184 AN specification reprints, on letterhead request by qualified individuals. Air Associates Inc., 49 Bendix St., Dept. AD, Teterboro, N. J.

Identify as IEN - 0508

FASTENINGS . . Stainless-steel bolts, nuts, screws, rivets, nails and hardware; also stainless-steel pipe, tubes, fittings, valves, pumps, containers. Catalog, "Stainless Steel Products No. 54", 68 pages. Schnitzer Alloy Products Co., 323-27 Pine St., Elizabeth 1, N. J.

Identify as IEN - 0509

FLEXIBLE SHAFT MACHINES . . Bench and suspended models with 1/15 and 1/10-hp. motors, shafts to use with your own motor, handpieces, chucks. Catalog 190, 8 pages. Foredom Electric Co., 25-29 Park Place, New York 7, N. Y.

Identify as IEN - 0510

FLEXIBLE SHAFT MACHINES . . Single to three speed, ⅛ to 3 hp. in bench, portable and overhead mounting. Wheel capacities, casings, handpieces and accessories for a variety of work. Catalog 31-A, 24 pages. Franklin Balmar Corp., 53 Clipper Road, Woodberry, Baltimore 11, Md.

Identify as IEN - 0511

FLOORS . . Wear-resistant concrete floor is produced by a low-water-ratio mix followed by screeding, power impacting, power rolling and power floating. How the company does it is shown in 20-page "Dynapakt" bulletin. Flash-Stone Co., 36 E. Rittenhouse St., Philadelphia 40, Pa.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8024

BUSCHMAN CONVEYORS
save $10,000 to $12,000 annually
at UARCO Inc.

Over a third of a mile of BUSCHMAN belt and roller conveyors have replaced a skid system of handling in-process forms at UARCO Inc., noted business form manufacturer. A 30% reduction in manhours plus a saving of 2000 sq. ft. of floor space effects a $10,000 to $12,000 saving annually. The above is typical of the "pay-for-themselves" records being established by BUSCHMAN. Each installation is complete to meet your specific needs—dictated by your products, process and space available.

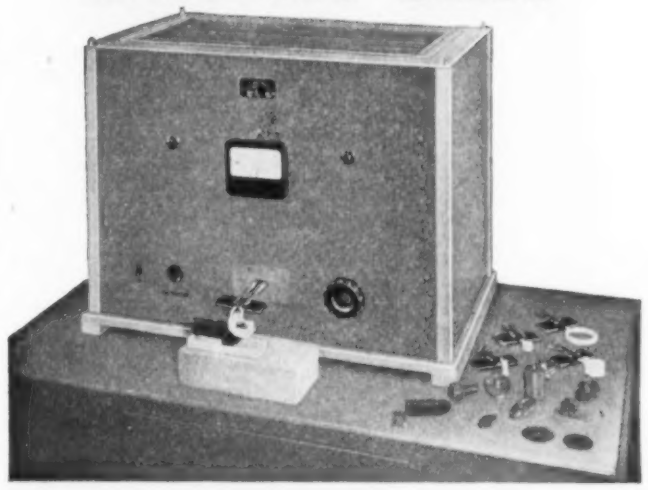
WRITE FOR BULLETIN NO. 60

THE E. W. BUSCHMAN CO.
4479 Clifton Avenue
Cincinnati 32, Ohio

PRODUCE MORE . . . FOR LESS on Buschman Conveyors

If you write maker identify as IEN - 8025

Lepel presents
A Low Cost PORTABLE
HIGH FREQUENCY
Induction
HEATING UNIT



This versatile unit is priced so low that every shop may now take advantage of modern induction heating techniques to improve quality and to increase production. Its simplicity of operation eliminates the need for skilled personnel.

The Lepel Model 2 KW will meet the requirements of machine shops, toolrooms, research laboratories and educational institutions. It is especially suitable for hardening, brazing and soldering small parts of either ferrous or non-ferrous metals.

Complete unit with line connection and load coil $870. f. o. b. factory

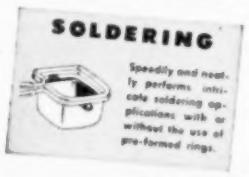
• SMALL AND COMPACT
Conveniently operated on bench or table—no mounting necessary.

• ECONOMICAL OPERATION
No special power installation required. Operates on 110 volts, 60 or 50 cycle line at unity power factor.

• FULLY GUARANTEED
Guaranteed for continuous duty cycle and stated performance.

WILL HEAT TO 1500° F.
⅛" steel rod 1" length in approx. 1 second
¼" " " " " " 3 seconds
½" " " " " " 15 seconds
1" " " " " " 60 seconds
Will melt 4 ounces of brass or steel in 4 minutes.
Equally well suited for heating of non-ferrous metals.

All Lepel equipment is certified to comply with the requirements of the FCC.



LEPEL HIGH FREQUENCY LABORATORIES, INC.
55th STREET and 37th AVENUE, WOODSIDE 77, NEW YORK CITY, N. Y.

If you write maker identify as IEN - 8027

this single unit sprays everything!

NO COMPRESSOR REQUIRED!

Just Plug it in and spray!

HEAVY DUTY Gun & Container, Neoprene Cord & Plug . . . entire unit UL approved.

$17.95 (Chrome Plated Gun . . $19.95)

This Champion Spray Gun is all you need for all industrial spraying applications. Thousands now in use by America's largest companies to cut labor and equipment costs and increase workmanship quality on intermittent applications.

Polished Aluminum Container • over 90 Pounds Pressure • 7200 Strokes per minute • Efficient Spray-Control Dial • Weighs only 3¾ lbs. • 8-ft. UL Approved Cords • Accurate, Eye-Level Nozzle • Non Corrosive Piston Action • Heavy Duty, 115-V., A.C.

Mail Your Order TODAY to: Literature Available

CHAMPION IMPLEMENT CORPORATION
7th Floor • 175 East 87th Street • New York 28

If you write maker identify as IEN - 8028

For battery buyers around the world

C&D's latest bulletin on industrial truck batteries—with complete details and specifications—is just off the press. Make your buying job easier by writing for your copy today. Ask for Bulletin IT-520.

C&D BATTERIES, INC.
of Conshohocken, Pa.
406 WASHINGTON STREET

If you write maker identify as IEN - 8029

Widen the Range of your Plant Cleaning

2 NEW Sizes!
HOFFCO-VAC
Heavy-Duty, Portable
VACUUM CLEANERS

Bigger Capacity and Higher Vacuum for Cleaning Larger Areas of Walls, Floors and Overhead Surfaces at Lower Cost!

Hoffco-Vac 15 Operates 35-foot length of hose.

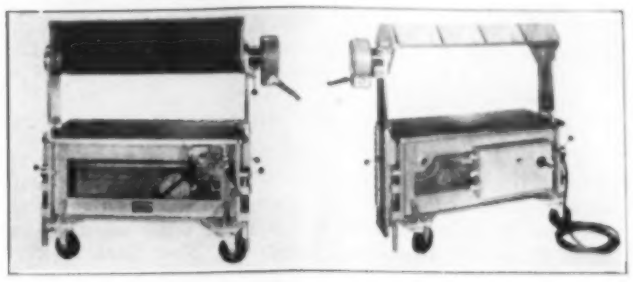
Hoffco-Vac 30 Operates 50-foot length of hose.

AIR APPLIANCE DIVISION
U.S. HOFFMAN MACHINERY CORPORATION
103 Fourth Ave., New York 3, N. Y.
Canadian Plant: Canadian Hoffman, Newmarket, Ont.

If you write maker identify as IEN - 8030

HANDLING . . Die tryout machine for assembling, fitting and testing

Source: HANSFORD MFG. CORP.
1237 University Ave., Rochester 7, N. Y.



Ask for Die Handler Bulletin

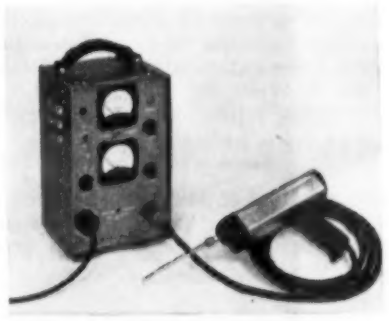
Motor drive, for rapid vertical traverse of the upper platen, has been added to the Die Handler previously described IEN-53-51. The new drive operates the platen at about 16 rpm. to save time in hand cranking. It is interlocked with the hand crank so the two cannot be engaged together. Application can be made on new machines or those now in service. Operation is on 110-volt ac.

The machine takes tools weighing to 1 ton. It will handle dies measuring to 43 in. in length by 24 in. in width. Minimum die space is 9 in. with upward movement through 16½ inches. The upper platen can be rotated, as well as moved vertically, for inspection of the bottom face of a punch member. It can be locked for drilling operations. Mounting is on casters so the machine and work can be rolled beneath the arm of a radial drilling machine. Cam operated legs lock a set position on the floor.

If you write maker identify as IEN - 8031

TESTING . . Electronic detector indicates gas leak visually, audibly

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.



Worker carries it

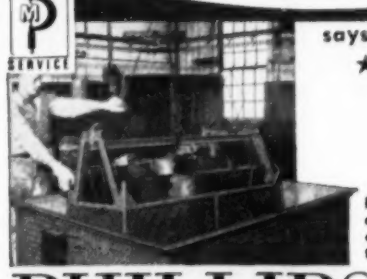
Products into which halogen gas can be introduced as a tracer, such as refrigerating and air conditioning equipment, tanks, boilers, piping, bellows, transformers, compressors, valves, can be tested for minute leaks with this new Type H-1 electronic detector. It represents improvement over the unit previously described IEN-4666-48. It is suited for use on the production line, in inspection departments and in the field.

The detector consists of a pistol-like "sniffer" and a 17-lb. control box about the size of a portable typewriter. It includes a built-in loudspeaker for audible detection of leaks, in addition to the earphone and the indicator dials on the control housing. An automatic balancing circuit compensates for changes in background air contamination. There is a built-in voltage stabilizer. A leak as small as 0.01 oz. of gas per year can be detected.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8032

BETTCHER MANUFACTURING CORPORATION . . .



says PHILLIPS degreasing
★ speeds up production
★ cuts overall production costs
★ gives more efficient cleaning

Phillips Model 84 degreaser gives fast, efficient cleaning in the Bettcher plant

PHILLIPS VAPOR DEGREASERS

- Higher operating temperature, greater capacity.
- No rinse, blast or drying operations.
- Power consumption only 70% in full production.
- Sizes, types for every need.
- Accurate, economical, safe solvent control.

Bettcher Manufacturing Corporation of Cleveland, Ohio has found that Phillips degreasing is vitally important in keeping costs low. Two Phillips batch type degreasers plus Phillsolv (stabilized and inhibited) are used to give fast, efficient cleaning of conversion heater parts. As a result, cleaning costs have been reduced 50% by this modern Phillips method. Parts are cleaner too, making possible further savings in finishing.

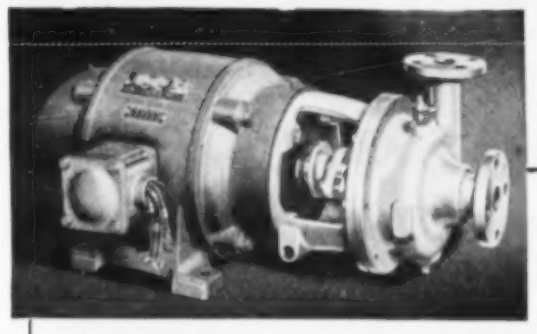
This is how the Phillips system helps get more profitable production. No matter what your own cleaning needs are, there is a Phillips unit to fit. Check with Phillips today for metal cleaning that cuts costs and improves cleaning at the same time.

SEND FOR THIS CATALOG

Complete information kit. Details on sizes, styles, installation. Illustrated bulletin and vapor degreasing handbook.

Phillips 3461 Touhy Avenue • Chicago 45, Illinois
MANUFACTURING COMPANY
Engineered Metal Cleaning Equipment

If you write maker identify as IEN - 8033



A low-cost answer to many acid-pumping problems!
AMPCO* Centrifugal Pumps

Take the headache out of pumping acids — use Ampco Centrifugal Pumps. Made of Ampco aluminum bronzes, they have exceptional resistance to corrosion. And they also resist the damaging effects of cavitational erosion, deformation, and wear.

That's why Ampco Pumps are ideal for handling difficult liquids such as hot sulfuric acid, hot acetic acid, hydrofluoric acid, fatty acids — as well as dyestuffs, caustics, brine, and other corrosive liquids.

Best of all, Ampco Pumps *sell at standard pump prices* — even with all their extra advantages. They're available in sizes from fractional flow to 600 gpm — with close-coupled or pedestal mounting. Write for more information today.

AMPCO METAL, INC.
Department IE-7 • Milwaukee 46, Wis.
*Reg. U. S. Pat. Off.

P-6

If you write maker identify as IEN - 8034

This new booklet shows you how Kodak Contour Projectors can simplify your inspection and measurement problems

Just off the press is the most informative booklet on Kodak Contour Projectors we've ever published.

- It shows by example and case history how you can inspect large parts, small parts, long parts, curved parts, complex parts, all sorts of parts on the Kodak Contour Projector.
- It gives details of both the Model 2A for precision micrometry, and the Model 3 for fast, routine gaging.
- It describes the features that make Kodak Contour Projectors adaptable to such a wide variety of work.
- It lists the accessories that extend their versatility.
- It discusses the measuring attachments that provide critical accuracy.

Whether your interest lies in toolroom measurement or production assembly and inspection, Kodak Contour Projectors will do the job quickly, completely, and accurately with little training of operators. For complete details send for your complimentary copy of this new 12-page booklet. Just write:

Special Products Sales Division
EASTMAN KODAK COMPANY, Rochester 4, N. Y.

the KODAK CONTOUR PROJECTOR

A new sound movie, Optical Gaging, shows how to simplify complex inspection problems. We'll tell you how to get it for a showing.

Optical Gaging

Kodak
TRADE MARK

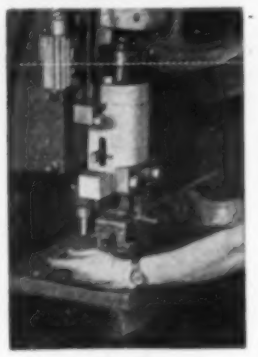
If you write maker identify as IEN - 8036

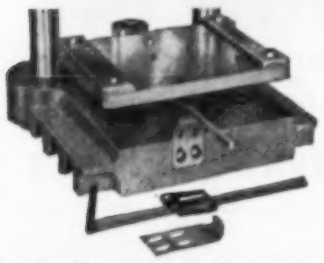
Adjustable Automatic Stock

FEED STOP for DIES

Dahlstrom Light Duty

AUTOSTOP





No drill jig...
No slotting...
No milling...

$1.75

Tested and improved through the years, the Dahlstrom Autostop will save hours of your high priced labor. Adjustable to work with blanking, progressive and compound dies. Mounts on stripper plate in 15 minutes. Handles sheet steel up to 1/16" x 6" or equivalent weight.

TO INSTALL: Just drill one 7/32-inch hole, then drill and tap four mounting holes per directions. That's all there is to it!

Trial order $1.75 each; lots of 12 $1.50 each. State whether for use on compound or progressive dies. *Write for free pamphlet.*

By the makers of the DAHLSTROM TAP GUIDE

Branch MANUFACTURING COMPANY
NORTH BRANCH • MINNESOTA

If you write maker identify as IEN - 8037

LET DOLGE MAKE a scientific, factual SANITARY SURVEY of your Premises at NO cost to you!

Here's what we do—

1 Your Dolge Service Man inspects your premises and sends his complete record to our home office;

2 Our technological staff analyzes your sanitary maintenance problems. You receive, without charge or obligation, a complete and detailed report;

3 Where the use of Dolge products is indicated, and where you accept our recommendations, your Dolge Service Man "follows through" in instructing your staff and returning for periodic reinspection.

Please write for Dolge Sanitary Survey booklet.

dependable DOLGE
WESTPORT, CONNECTICUT

If you write maker identify as IEN - 8038

NEW BEARING CALCULATOR

Free!

Gives you needed load, speed and life data with slide-rule speed

Here is a real time saver for thrust bearing users—a slide scale that calculates quickly the basic information necessary to proper bearing selection. Easy to use. Practically eliminates pencil-and-paper calculations. Supplied free on request. Mail coupon today!

Aetna

AETNA BALL AND ROLLER BEARING COMPANY
4600 Schubert Avenue, Chicago 39, Illinois

Please send me, free of charge and without obligation, your new Bearing Calculator.

NAME_____ TITLE_____
COMPANY_____
ADDRESS_____
CITY_____ ZONE_____ STATE_____

NEW LITERATURE—Continued

Identify as IEN - 0512

FURNITURE . . Tables with cast pedestals and a variety of top surfaces are primarily for cafeteria and similar use. Designs, colors, uses in 12-page Catalog 1133. Chicago Hardware Foundry, 3501-5 Commonwealth, North Chicago, Ill.

Identify as IEN - 0513

MICROMETER GAGES . . Swiss made micrometers with carbide tips and stainless-steel screws, also dial indicator gages, vernier calipers, height gages, levels. 40-page Catalog 153 also tells how to read the vernier scale on a caliper. Alina Corp., 401 Broadway, Room 705, New York 13, N. Y.

Identify as IEN - 0514

ALIGNMENT TELESCOPE . . To establish accurate reference lines over distances of about 100 ft., primarily for aircraft fixtures and jigs, also an optical square for the same purpose, accessories. "Optical Tooling", 15 sheets. Farrand Optical Co., 4403 Bronx Blvd., New York 70, N. Y.

Identify as IEN - 0515

PRESSURE GAGE . . Manometer to read absolute, gage or differential pressure to 600 in. of mercury or water. It applies pressure to the top of a standard manometer to accomplish this action. Descriptive Bulletin 28, 15 sheets, will be sent on letterhead request. Meriam Instrument Co., 10918-22 Madison Ave., Cleveland 2, Ohio

Identify as IEN - 0516

SURFACE ROUGHNESS GAGE . . Electronic Profilometer instrument shows when tools are getting dull by its microinch readings. Where and how to use it in 8-page Bulletin LT-77 with pictures on its use in production. Micrometrical Mfg. Co., 343-47 S. Main St., Ann Arbor, Mich.

Identify as IEN - 0517

HANDLING . . Hand trucks, portable elevators, electric lift trucks, portable cranes, clamps and grabs, slings, winches, hoists, C-clamps. Looseleaf catalog, 36 pages. Allied Mfg. & Sales Co., 203 N. Wells St., Chicago 6, Ill.

Identify as IEN - 0518

HANDLING . . Pallet-base boxes of 2-in. heavy wire mesh fold flat for shipping or storage. What they can do in space saving is told in 8-page "Cargotainers". Pittsburgh Steel Products Co., 1402 Grant Bldg., Pittsburgh 19, Pa.

Identify as IEN - 0519

SPACE HEATERS . . Floor and overhead-mounted units for steam, 100,000 to 2,500,000 btu. per hr., air delivery from 2,000 to 25,000 cfm. Catalog 1510, 36 pages, shows how to locate them, gives selection data. Westinghouse Electric Corp., 202 Readville St., Boston 36, Mass.

Identify as IEN - 0520

HEAT TREATING . . Recirculating furnaces in pot, batch and conveyor types for a variety of heat-processing operations on metal products. Bulletin 81, 12 pages. Despatch Oven Co., 617-21 S. E. 8th St., Minneapolis 14, Minn.

Identify as IEN - 0521

COLD INSULATION . . Foamglas low-temperature block insulation for walls, ceilings, floors and equipment; properties and uses in 24-page Bulletin FL-100. Pittsburgh Corning Corp., 3 Gateway Center, Pittsburgh 22, Pa.

Identify as IEN - 0522

VIBRATION ISOLATION . . Mounting bases for fans and motors to isolate vibration and noise are treated in new 4-page Catalog FB-802 with examples. Korfund Co., 48-35 32nd Place, Long Island City 1, N. Y.

Identify as IEN - 0523

JIG BORING MACHINE . . Electrolimit method of measuring longitudinal and transverse movements of the company's Model 2E jig borer is shown by a diagram in 8-page Bulletin 559. Another shows preloaded quill. Pratt & Whitney, 49 Charter Oak Blvd., West Hartford 1, Conn.

Identify as IEN - 0524

LATHES . . Jeweler and instrument-maker designs for small precise work include a turret type. Catalog L, 32 pages, also shows drives, tools and accessories. Louis Levin & Son Inc., 780-84 E. Pico Blvd., Los Angeles 21, Calif.

Identify as IEN - 0525

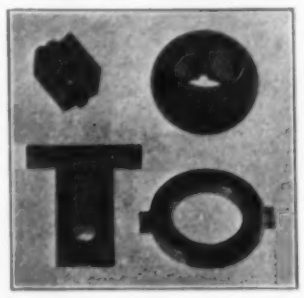
LATHES . . Bench and floor models of 9-in. lathe are offered in a variety of combinations by new 12-page Catalog 5304 along with attachments and accessories. South Bend Lathe Works, 301 E. Madison St., South Bend 22, Ind.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8039

SELF-LUBRICATING BEARINGS AND MECHANICAL PARTS

SINTRLOY — DUCTILOY — SEALALOY



SINTRLOY — Powdered Bronze Bearings are used by the millions in sweepers, refrigerators, washing machines, portable electric and pneumatic tools, medium and light industrial equipment.

DUCTILOY — Powdered Bronze Bearings and Mechanical Parts to be used in heavy duty applications where greater strength and shock resistance are required.

SEALALOY—Powdered Bronze Material used for mating rings in rotating mechanical seals to give excellent wearing qualities and shock resistance. Manufactured to your exact requirements.

MAY WE QUOTE ON YOUR SPECIFICATIONS AND PRINTS? NO OBLIGATION.

NATIONAL MOLDED PRODUCTS, INC.
1945 Mill Street St. Marys, Pa.

If you write maker identify as IEN - 8040

all new! THROUGH AND THROUGH

NEW DESIGN

Stainless Steel Meter

ACCURATELY MEASURES LIQUIDS FOR FOODS, PHARMACEUTICALS, CHEMICALS AND CORROSIVE LIQUORS

Rockwell Rotocycle Stainless Steel Industrial Meter, Type 2BC

Now you can have positive metered accounting for corrosive liquids that previously could not be handled by ordinary meters. Type 2BC Rockwell Rotocycles are made of stainless steel, inside and out. They are lasting, accurate, easy to clean. Install them with certainty for batch mixing formulas, for inventory control, for cost and tax record accounting. Quantity Control Registers and Remote Registration Systems are available. Described in bulletin OG-403. *Write Rockwell Mfg. Co. Dept. B-10, Pittsburgh 8, Pa.*

ROCKWELL
You Can RELY ON ROCKWELL INDUSTRIAL METERS

If you write maker identify as IEN - 8041

Now, a complete new 20-page catalog for the Waldes Truarc Grooving Tool

...The One Versatile Tool Designed for High Speed, Precision Cutting of Internal Grooves in Housings and Bores

- Special features, modifications and adaptations.
- Cutting ranges for bores from ¼" to 5".
- Cutters—single, multiple, beveled, special profiles. Bottom adaptors, elongated spindles, and extended bushings... for solving particular problems.
- Locating grooves in bores, housings, and blind holes.
- 17 case histories of typical problems and solutions.
- Selection of right model tool and right accessories for your particular job.

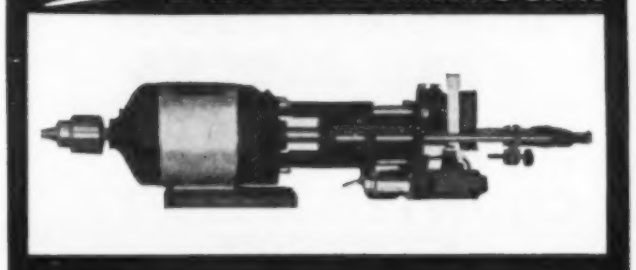
This new catalog gives complete, illustrated information and data charts showing how the Waldes Truarc Grooving Tool can solve virtually every internal grooving problem. Shows how even unskilled labor can perform precise, production-line operations. Send for your copy today!

WALDES TRUARC GROOVING TOOL

MADE BY THE MANUFACTURERS OF WALDES TRUARC RETAINING RINGS
WALDES KOHINOOR, INC., 47-16 Austel Place, Long Island City 1, N. Y.
Waldes Truarc Grooving Tool manufactured under U. S. Pat. 2,611,426

If you write maker identify as IEN - 8042

New BLACK SELF-CONTAINED DRILLING UNITS



NO SPLINES

NO GEARS

NO CAMS

NO CLUTCHES

NO REVOLVING WEIGHTS

Self-contained units, at low cost, for drilling, tapping, chamfering, reaming and similar operations.

New principle employs traversing motor shaft for work spindle, applies even torque with practically no end play. Drill has air feed for rapid advance to work—hydraulic control to completion of work cycle with uniform feed. Tapping unit controlled so tap follows its own lead without chamfering first thread or stripping threads on return stroke. Easy adjustment—depth accuracy to within .001".

Operate in any position. Wide range of speeds and sizes.

Write for complete information

BLACK DRILL COMPANY, INC.
1378 EAST 222nd STREET • CLEVELAND 17, OHIO

If you write maker identify as IEN - 8043

Threads 4 sizes of pipe *fast* with 1 set of dies— *and it won't jam!*

RIDGID

65R PIPE THREADER

This popular 65R has saved millions of hours of threading time, and no wonder—its one set of self-contained high-speed dies adjust to 1", 1¼", 1½" or 2" pipe size in 10 seconds! Mistake-proof self-centering workholder sets instantly! And lead screw won't jam on workholder, kicks out automatically at standard thread length! You can't match it for fast easy pipe threading—buy it at your Supply House

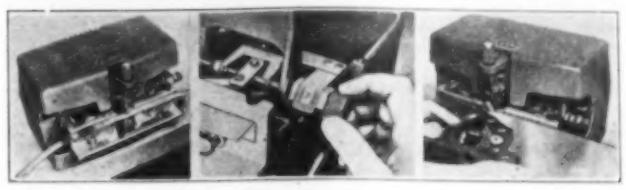
THE RIDGE TOOL COMPANY • ELYRIA, OHIO

RIDGID Work-Saver Pipe Tools

If you write maker identify as IEN - 8045

SAWING . . Motor driven machine sets teeth on hand and power saw blades

Source: FOLEY MFG. CO.
3298-302 Fifth St. N. E., Minneapolis 18, Minn.



No skill required

Twin-Hammer action by spring actuated motor driven hammers, in this new saw setting machine, act simultaneously to set both rows of teeth in a saw blade in one operation. A 26-in. hand saw with 8-point teeth can be set in 32 seconds. The machine operates at 6½ to 15 sec. per ft. for saws from 4 to 8 points per in. and to 1½ in. in width for power saw blades. It applies on hand saws with teeth from 4 to 16 points per inch.

The number of points is selected by turning a dial. The machine is then ready for operation as soon as the saw blade is inserted and adjustment is made for depth of set. Operating control centers at a foot switch.

If you write maker identify as IEN - 8046

TRUCK . . Power lift fork design also advances and retracts the forks

Source: RAYMOND CORPORATION
35 Madison St., Greene, N. Y.

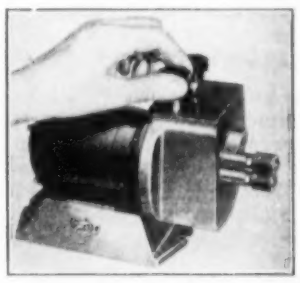
Please note our error

The correct trade name for Raymond Corporation's new truck with the "boarding house reach", previously described IEN-4816-53, is Reach Fork, not Ready Fork. Also it is an entirely new design and not an addition to the Spacemaker line as we reported it. The Spacemaker line was discontinued about a year ago.

If you write maker identify as IEN - 8047

STRIPPING . . Roll type machine for wire, melts and removes insulation

Source: ERASER CO.
1066-70 S. Clinton St., Syracuse 4, N. Y.



Direct motor drive

Model R-1 is a new midget design of the wire stripper, previously described IEN-13128-52. It is intended for use on film insulated fine magnet wire. Distance between the two wheels can be set to develop just enough friction to melt the insulation so the wheels can brush the residue away and leave the wire clean. A built-in pressure regulator permits the rolls to separate when the wire is first entered. Then it brings them back to the predetermined setting.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8048

ALL-PURPOSE SLINGS

with new Roebling Tapered Sleeve Splice . . . stronger . . . cost less!

NEW ROEBLING All-Purpose Slings with the Tapered Sleeve Splice are delivered ready for the job. The unique rolled loops and tapered sleeve attachments develop the full strength of the rope . . . cost less than ordinary tucked splices . . . save "splicing your own".

Made of Roebling "Blue Center" Steel Wire Rope, All-Purpose Slings are unsurpassed for toughness and dependability . . . flexible and easy to handle . . . come in all standard lengths and sizes. Send for full information and for the free "Sling Data Book." John A. Roebling's Sons Corporation, Trenton 2, New Jersey.

A subsidiary of The Colorado Fuel and Iron Corporation

ROEBLING

If you write maker identify as IEN - 8049

BALL BUSHING

The BALL BEARING for your

LINEAR MOTIONS

LOW FRICTION • LOW MAINTENANCE
ELIMINATES BINDING AND CHATTER
SOLVES SLIDING LUBRICATION PROBLEMS
LONG LIFE • LASTING ALIGNMENT

Sliding linear motions are nearly always troublesome. Thousands of progressive engineers have solved this problem by application of the Precision Series A or Low-Cost Series B BALL BUSHINGS.

Alert designers can now make tremendous improvements in their products by using BALL BUSHINGS on *guide rods, reciprocating shafts, push-pull actions, or for support of any mechanism that is moved or shifted in a straight line.*

Improve your product. Up-date your design and performance with BALL BUSHINGS! Now manufactured for ¼", ½", ¾", 1", 1½" and 2½" shaft diameters.

THOMSON INDUSTRIES, INC.
Dept. I MANHASSET, NEW YORK

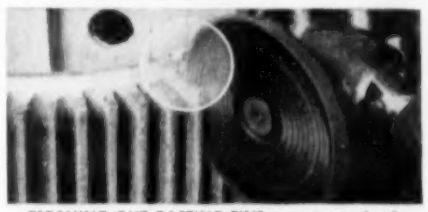
Write for descriptive literature and the name of our representative in your city.

Also manufacturers of NYLINED Bearings — DuPont NYLON within a metal sleeve — for rotation and reciprocation.

PROGRESSIVE MANUFACTURERS USE BALL BUSHINGS—A MAJOR IMPROVEMENT AT A MINOR COST

If you write maker identify as IEN - 8050

BLENDING IN A WELD — faster and better with a Norton BFR semi-flexible wheel.



CLEANING OUT CASTING FINS — easier and safer with a Norton BD rigid wheel.

Your "TOUCH OF GOLD" team for low cost portable grinding

The Norton Reinforced Hub Wheels, BD rigid and BFR semi-flexible, are easier to handle than cup wheels, longer lasting than coated abrasive discs, are more versatile than either.

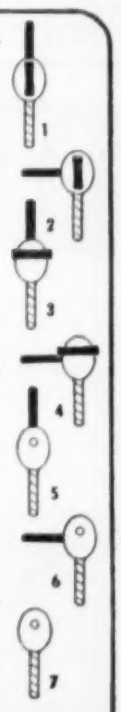
Made of aluminum oxide and silicon carbide abrasives they cut fast and cool. They're reinforced with strong Nylon webbing, for tops in safety. And they make a grinding team that will help you turn out products faster and easier — adding your profit-boosting "Touch of Gold" to countless every-day jobs.

SEE YOUR NORTON DISTRIBUTOR for full particulars or write to NORTON COMPANY, Worcester 6, Mass. for descriptive folder #225. Distributors in all principal cities. *Export:* Norton Behr-Manning Overseas Inc. Worcester 6, Mass.

NORTON ABRASIVES
Making better products to make other products better

If you write maker identify as IEN - 8051

NEW! Porter-Cable ½" DRILL with 7 Grip Positions



HERE'S a new standard duty ½" drill you can really "bear down on." Its 2-position auxiliary handle permits extra leverage on the tough jobs. Its exclusive rear handle adjusts horizontally or vertically so you can lean into the work . . . you can even remove the rear handle—or both handles—and concentrate your whole strength behind the drill body.

Features: heavy, precision-ground Jacobs gear-type chuck . . . double compound reduction gears . . . combination ball radial and thrust bearings. U.L. listed.

At Your Porter-Cable dealer's **$48.95**
(New ¼" Drill $29.95)

PORTER-CABLE Machine Company
1207 N. Salina Street, Syracuse 8, N. Y.
Manufacturers of Speedmatic & Guild Electric Tools
In Canada write: Strongridge Ltd., London, Ont

If you write maker identify as IEN - 8052

HYDRAULIC PRESS
For Fast Production

Downward stroke on applicator pedal moves ram to contact work. Booster pedal builds pressures up to 10 tons. Release pedal retracts ram.

Ideal For All Jobs That Require Fast and Accurate Pressure

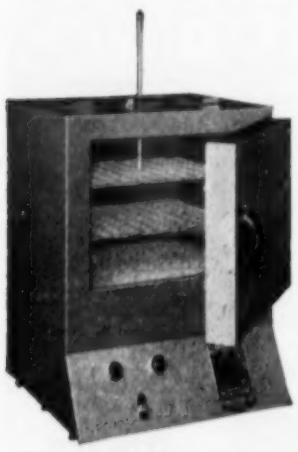
Studebaker SPEEDPRESS

- Self-contained—no air or electrical connections.
- Operated with precision foot operator.
- Eliminates old style Arbor Presses.
- SAFE—hands free to guide work.

Write for bulletin No. 52

Studebaker MACHINE COMPANY
1235 S. 9th Avenue • Maywood, Ill.

If you write maker identify as IEN - 8053



HUPPERT KH 1200 LABORATORY OVEN

—Equalized oven heat at all times

Complete with Thermostatic Control **$90.00**
With Thermometer **$95.00**
All Stainless Steel **$120.00**
(Thermometer $5.00 extra)

Results from Huppert Ovens are always accurate. Thermostatic control accuracy ½ of 1° C. at any setting up to 425° F./220° C. This is achieved by a double venting system for constant dispersion of fumes and other exhaust air, permitting cleaner operation and better distribution of heat. Work chamber is stainless steel—12" x 10" x 10".

ALSO HUPPERT 5700 SERIES OVEN

MODEL	I. D.	WATTAGE	TEMP. RANGE	PRICE
5700LT	20" x 15" x 19"	1400	80° F. to 350° F.	$180.00
5700MT	20" x 15" x 19"	1800	80° F. to 400° F.	$180.00
5700HT	20" x 15" x 19"	2400	80° F. to 500° F.	$180.00

(Centigrade scale optional)
1 hour timer—$10.00 additional
Write for literature

K. H. HUPPERT CO.
6856 Cottage Grove Avenue Chicago 37, Illinois
Manufacturers of Electric Furnaces and Ovens

If you write maker identify as IEN - 8054

ANGLE STEEL STOOLS

RUGGED-Smooth, with ADJUSTABLE BACK REST TO FIT WORKER

•Years of designing and manufacturing experience stand back of Angle Steel's rugged industrial stools. Perfect rigidity is engineered into all varying models and designs. All stools have Angle Steel's riveted construction. Legs have ball-type feet for solid footing and easy sliding. Available in various heights. Finished in Olive Green, Angle Steel Gray or School Brown baked enamel. Choice of wood or steel seats. Wood seats and back rests in natural finish.

Helpful literature . . . FREE

ANGLE STEEL, Inc.
Dept. 3 Plainwell, Michigan

SEND FREE Literature . . . we're interested in: ..... Benches ..... Machine Tender Trucks ..... Stools.

Company .....
My Name ..... Title .....
Address .....

NEW LITERATURE—Continued

Identify as IEN - 0526

LOCKS . . Flush-handle latches and other locks for equipment housings, truck bodies, cabinets are summarized in 4-page Bulletin 90 along with other types. A. L. Hansen Mfg. Co., 5051 Ravenswood Ave., Chicago 40, Ill.

Identify as IEN - 0527

MOLYBDENUM LUBRICANTS . . Molykote materials in dry, grease, liquid, bonded-coating forms are based on molybdenum disulfide. Bulletin 100, 8 pages, has list prices. Alpha Corp., 177-81 Hamilton Ave., Greenwich, Conn.

Identify as IEN - 0528

MACHINE TOOLS . . Letterhead request will bring you 180-page catalog on new and rebuilt machine tools, domestic and foreign units, company's own machines, and a variety of tools for turret lathes. Index covers 9 pages. Morey Machinery Co., 402 Broome St., New York 13, N. Y.

Identify as IEN - 0529

MAGNETS . . Lifting and handling electromagnets in capacities to 110,000 lb. in 31 sizes, also controls to use with them. Bulletin 112, 8 pages, has a capacity chart for materials from billets to turnings. Ohio Electric Co., 5402 Dunham Road, Cleveland 3, Ohio

Identify as IEN - 0530

MARKING TOOLS . . Steel stamps with $\frac{1}{16}$ to 1-in. characters, symbol stamps, steel type and holders, press dies, marking machines, numbering heads, rubber stamps. Catalog 53, letterhead request from qualified individuals, 72 pages, includes 16 pages on weights, conversion tables, areas. Quality Die Co., 3063-67 E. 93rd St., Chicago 17, Ill.

Identify as IEN - 0531

MAGNETIC POWDERS . . Primarily for electronic cores and similar products. Catalog 354, 8 pages, covers annealed carbonyl and hydrogen reduced iron, natural magnetite. Magnetic Powders Inc., 1023 Fairview, Johnsonburg, Pa.

Identify as IEN - 0532

POWDER METAL PARTS . . Design considerations, suggested tolerances, bearing load charts, properties of 15 grades, 130 illustrated applications from motor bearings to shaft keys, in 44-page Catalog G-53, "Gramix". United States Graphite Co., 1619-23 Holland Ave., Saginaw, Mich.

Identify as IEN - 0533

METAL TREATING . . Process to prolong life of ferrous and non-ferrous wear parts, cutting tools and gages. It consists of stress relieving followed by deposition of an alloy that hardens surface, lowers friction, resists corrosion. Bulletin, "Electrolizing", 20 pages. Electrolizing Corp., 1503-7 East End Ave., Chicago Heights, Ill.

Identify as IEN - 0534

MILLING CUTTERS . . Multiple-thread form-relieved units for internal or external threads. New 16-page Manual D-52, available on letterhead request, describes the thread milling process, feeds and speeds, cutter maintenance, tolerances, cutter types, and ordering instructions. Detroit Tap & Tool Co., 8613-17 E. 8-Mile Road, Base Line, Mich.

Identify as IEN - 0535

MONORAIL . . Metal parts, tires, foundry sand, rolls of cloth are transported from place to place or between buildings by automatic monorail despatch assemblies. How they work and variations possible are in 12-page Bulletin AD-1. American Monorail Co., 1311 Athens Ave., Cleveland 7, Ohio

Identify as IEN - 0536

GEAR MOTORS . . Selection guide on some 200 applications from agitators to windlasses, design and maintenance features, standard types from 1/6 to 200 hp. and speeds from 790 to 5.7 rpm., all in 16-page Bulletin GEA-1437H. General Electric Co., Dept. 6X-201, Schenectady 5, N. Y.

Identify as IEN - 0537

MOTORS . . Small blower motors, gearmotors, synchro motors, magnetic amplifiers, gyros, tachometer generators. Looseleaf catalog, letterhead request, 60 sheets. Kearfott Mfg. Co., 1148-52 McBride Ave., Little Falls, N. J.

Identify as IEN - 0538

MOTORS . . English-made enclosed fan-cooled squirrel-cage units to 30 hp. and drip-proof units from 10 to 125 hp. Catalog, "Integral Horsepower Motors", 20 pages. Newman Industries Inc., 41-45 Broad St., New York 4, N. Y.

Identify as IEN - 0539

MOTORS . . Instrument-type hysteresis synchronous and control motors for position control, computer and servo equipment. Catalog, "Instrument Motors", 20 pages. Servomechanisms Inc., Stewart & Post Aves., Westbury, N. Y.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8055

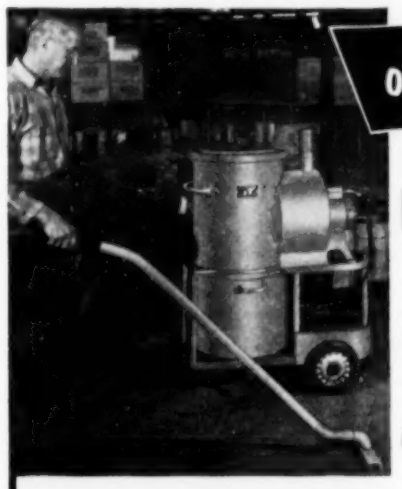
Complete Line of HEAD BLOCKS
WINCHES
COUNTERWEIGHT SYSTEMS

Loads ranging from a few pounds to 40 tons and more must be hoisted and moved quickly and safely on the theatre stage. The complete line of head blocks, hand and motorized winches and counterweight systems — all standard catalog items — which J. R. Clancy, Inc. has supplied for the stage for 76 years is available to meet the many similar requirements of modern industry.

Send for Catalog
Theatrical Equipment Division

J. R. CLANCY INC.
1026 W. BELDEN AVE., SYRACUSE 4, N. Y.

If you write maker identify as IEN - 8056



on the job with **INVINCIBLE VACUUM CLEANERS**
at Cleveland Electric Illuminating Company

Invincibles form an important part of the "cleaning fleet" at this utility. At the C.E.I. warehouse illustrated, an Invincible Model 450 is used daily to keep floors and bins free of dust and dirt.

In all industries, Invincibles give the same reliable service, providing healthful and efficient working conditions.

WRITE FOR FREE BULLETIN

INVINCIBLE VACUUM CLEANER MFG. CO.
Dover, Ohio

If you write maker identify as IEN - 8057

LEVIN® MICRO-DRILL PRESS

for holes as small as .002"

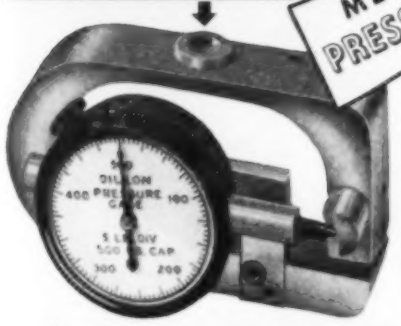
Designed to hold small drills in precision collets. Absence of a sliding quill guarantees extreme sensitivity with finger-tip control. A mounted ⅛" capacity drill chuck can also be used.

Write for Bulletin H describing the Micro-Drill Press and listing collet sizes. Louis Levin & Son, Inc., 782 E. Pico Blvd., Los Angeles 21, California.

If you write maker identify as **IEN - 8058**

DILLON

MECHANICAL PRESSURE GAUGE



will flex millions of cycles without losing its resiliency

★ Made with watchmaker's precision, this compact, accurate instrument will measure pressure or compressive loads in extremely small spaces. Will sustain 25% accidental overload. Each unit individually calibrated. Applications are unlimited. Measures pressure in vises, hydraulic presses, spot welders, etc. Jeweled dial indicator for greatest accuracy. Range capacity up to 5,000 lbs.—low in cost.

Write or wire for illustrated catalog today

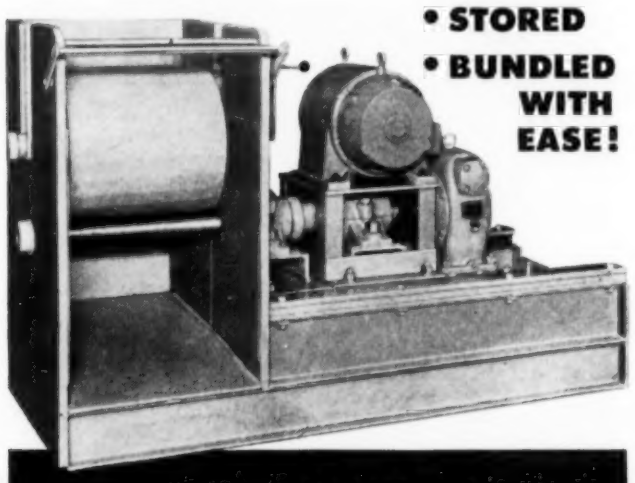
W. C. DILLON & CO., Inc.

14620K Keswick Street, Van Nuys (Suburb of Los Angeles), California

If you write maker identify as **IEN - 8059**

NOW ... WIRE or STRINGY SCRAP

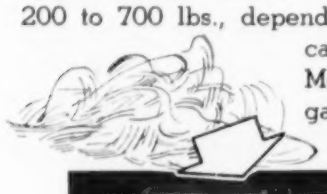
- **HANDLED**
- **STORED**
- **BUNDLED WITH EASE!**



WITH THE *NEW*

Phillips SCRAP BALLER

If you have a problem of balling stringy scrap or wire—you can't afford to be without this new Phillips Scrap Baller. It balls scrap into compact cylinders 22" to 28" in diameter weighing from 200 to 700 lbs., depending on metal—which can be sold as No. 1 Melting Scrap. Investigate today!



Scrap is drawn into the balling chamber—and is quickly shaped into compact cylinder which rolls from machine when released.

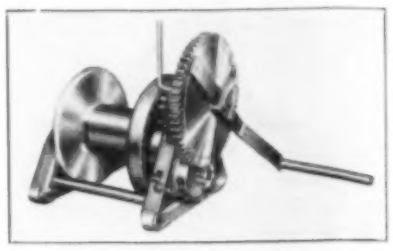
Write for Bulletin E-52

PHILLIPS
MINE AND MILL SUPPLY COMPANY
2300 JANE STREET
PITTSBURGH 3, PA.

If you write maker identify as **IEN - 8061**

WINCH . . Hand operated unit rates 5 ton at 27 to 1 reduction

Source: ST. ANTHONY MACHINE PRODUCTS CO.
2426 E. Franklin Ave., Minneapolis 6, Minn.



Power adaptor to order

The drum in this new Handiwinch measures 8 in. in length by 5 in. in hub diameter. The flanges measure 12½ inches. Drive is by means of machine cut gears and a crank that can be positioned at either of two locations for 27 to 1 and 4.5 to 1 reduction. In the latter case, the load capacity is 1,900 pounds.

Assembly is in a welded steel frame with self-lubricating bronze bushings. A load is held by a ratchet. Lowering control is by operating a brake lever that applies a friction band on a drum. The winch takes 175 ft. of ⅝-in. rope or 475 ft. of ⅜-in. rope. The base mounting holes are on 13½ by 10½ in. centers. List price is $99.

If you write maker identify as **IEN - 8062**

CORROSION PROOFING . . Clear liquid for aluminum, stainless steel, chrome

Source: SILVERCOTE PRODUCTS INC.
159-63 E. Erie St., Chicago 11, Ill.

The film is invisible

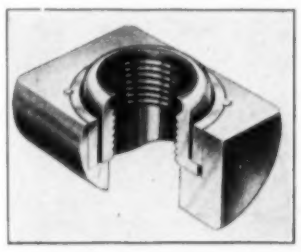
Gliss trade names a new liquid for spray or brush application on aluminum, stainless steel, chromium plate, following a degreasing operation employing mineral spirits or neutral soap. Coverage is 350 to 400 sq. ft. per gallon. Recommended film thickness is 1 mil.

The spray type liquid air dries to touch in 10 to 20 min., is hard in 2 hours. The brush type liquid dries in 1½ to 2 hr. to touch and is hard in about 12 hours. Oven drying shortens the interval and hardens the finished surface. List price is $8 per gallon in drum lots, $9 in pints or half-pints.

If you write maker identify as **IEN - 8063**

FASTENING . . Self-centering nut floats free in a drilled cross hole

Source: SHUR-LOK CORP.
9008-12 Bellanca Ave., Los Angeles 45, Calif.



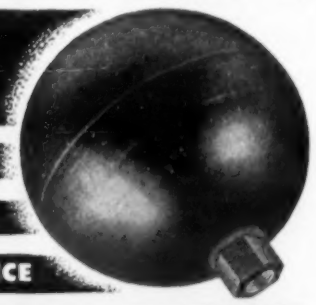
In the Shur Lok line

Barrel Nut Series SL-6 is a new assembly of aluminum barrel with a straight semicircular base, a steel retainer and a threaded steel bushing. The nut is inserted into a cross hole in a structure and a retaining ring is snapped into the hole back of it. The threaded portion presents its threads in floating assembly for self-aligning action. A resilient ring in the threaded portion provides locking action. Sizes range from ¼-28 to ⅞-14.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 8064**

FOR THESE *Extras*



- **LONGER SERVICE**
- **LESS MAINTENANCE**
- **HIGHER PERFORMANCE**

use STAINLESS STEEL

FLOATS

YOU can solve virtually all your float problems by standardizing on Stainless Steel Floats from Chicago Float Works. You get longer service and less maintenance because Stainless Steel Floats resist corrosion and withstand high temperatures and pressures. Extreme strength insures them against collapsing and they always respond perfectly to level fluctuations because of permanently high buoyancy. Install our high quality Stainless Steel Floats and be sure of long, dependable operation!

WRITE FOR FREE CATALOG

This illustrated catalog gives complete details on sizes, shapes, spud connections, and engineering data on Chicago's complete line of standard or special floats.

CHICAGO FLOAT WORKS

2326 S. Western Avenue • Chicago 8, Illinois

If you write maker identify as **IEN - 8065**

CONTROL COSTS

Stop human errors in reading, remembering, recording! Toledo Printweigh Scales provide accurate printed weights . . . *accurately* recorded. Send for bulletin 2021. Toledo Scale Co., Toledo 1, Ohio.

TOLEDO®

Headquarters for SCALES

If you write maker identify as **IEN - 8066**

SEND FOR THIS NEW BULLETIN

Improved Method Centrifugal SPRAY DRYER *and* CONCENTRATOR*

CONTRACT DRYING

We invite inquiries for Contract Drying in our fully equipped, Stainless Steel Plant in Chicago. Shipments can be made direct to our Railroad Switch Track or Truck Docks.

THE DRYING AND CONCENTRATING COMPANY DRYER

Improved method for **DEHYDRATING**

Solutions, emulsions and materials which can be handled in a liquid form including:

Chemicals
Pharmaceuticals
Milk Products
Blood or Blood Plasma
Soups, Vegetables, etc.

This complete spray drying plant employs a unique centrifugal-type spray head, and consists of a Drying Chamber, Concentrator, Air Heating Unit, Air Filter, Air Supply Fan, Powder Cooling and Sanitary Pumps with variable speed drives for handling the liquid material and controlling the moisture.

***CONCENTRATOR AVAILABLE SEPARATELY**

The Concentrator can be operated as a separate unit for reducing liquid products to almost any desired degree of concentration, almost instantaneously, retaining neutral flavors and vitamins.

Write for New FREE Bulletin 265

DRYING and CONCENTRATING CO.
333 SOUTH MICHIGAN AVENUE, CHICAGO, ILLINOIS

If you write maker identify as **IEN - 8067**

Q. What vacuum-producing equipment has no moving parts?

A. The I-R STEAM-JET EJECTOR

Steam nozzle, suction chamber, and diffuser. These are the three basic parts of an I-R Steam-Jet Ejector. They're all stationary, all ruggedly constructed, accurately aligned and rigidly bolted together.

Steam shooting into the venturi-shaped diffuser creates the required suction pressure. There's nothing to wear out—nothing to adjust, lubricate or maintain. Operation is quiet—vibrationless—foolproof.

I-R Steam-Jet Ejectors can be supplied for producing vacuum pressures down to .002" Hg absolute—in any desired capacity, for handling any combination of air, gases and vapors. If you need vacuum equipment, it will pay you to look into I-R Steam-Jet Ejectors. Send for free Bulletin No. 9013A.

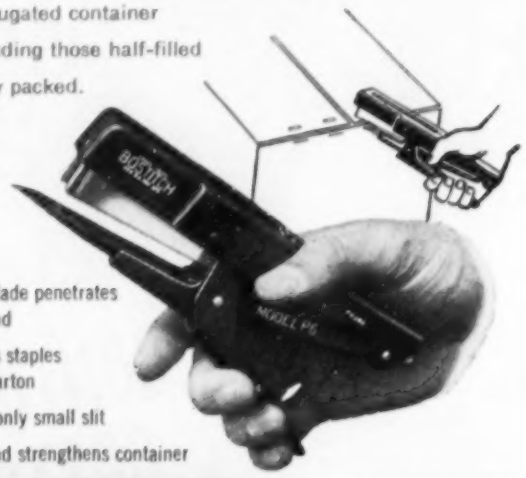
685-4

11 Broadway, New York 4, N. Y. **Ingersoll-Rand**

If you write maker identify as IEN - 8068

New Bostitch Stapling Plier with a Pointed Blade

For fastening almost any cardboard or corrugated container including those half-filled or loosely packed.



- Sharp blade penetrates easily and
- Clinches staples inside carton
- Leaves only small slit
- Seals and strengthens container

BOSTITCH fastens it better AND FASTER with wire

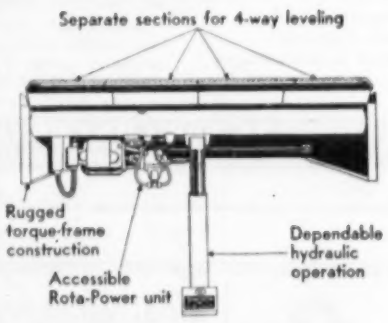
For a free demonstration call your local Bostitch representative. He's listed under "Bostitch" in your telephone directory. Or write:
Bostitch
647 Mechanic St.
Westerly, R. I.

If you write maker identify as IEN - 8069

ROTARY'S
NEW Leva-Dock

Adjustable hydraulic ramp for loading docks

- Low cost
- Simple installation
- Easy maintenance
- Assured Safety
- 4-way leveling



■ **Faster, Safer Loading**—Hundreds of material handling men were interviewed, thousands of loading docks checked before the new LEVA-DOCK was designed and engineered. It's Rotary's practical, economical answer to the loading dock problem.

This new automatic ramp compensates 4 ways for varying truck bed heights, out-of-level trucks, and truck spring deflection. Power trucks move quickly, safely in and out of trucks or trailers. A new automatic safety device prevents accidents and costly delays.

The Leva-Dock is a rugged, self-contained unit with oil reservoir mounted in torque-tube frame. All piping and wiring done at the factory except power leads and control wires. Installation costs are cut to the bone.

Mail the coupon and we'll show you how to make big savings at your loading dock.

Rotary® Leva-Dock

MAIL FOR COMPLETE DATA
Rotary Lift Co.
1072 Kentucky, Memphis 2, Tenn.
Send information on the LEVA-DOCK to:
Name _____
Address _____

NEW LITERATURE—Continued

Identify as IEN - 0540

MOTORS . . Aircraft motors for 400-cycle three-phase ac. operation are outlined for standard and geared models in 8-page Form F-1535. U. S. Electrical Motors Inc., Box 2058-A, Terminal Annex, Los Angeles 54, Calif.

Identify as IEN - 0541

MOTOR STARTERS . . Magnetic units for across-the-line starting of single and polyphase squirrel-cage motors to 400 hp. and 600 volts ac. Data on NEMA sizes from 0 to 6 in 12-page Bulletin 504 with five enclosure types. Federal Electric Products Co., 55 Paris St., Newark 5, N. J.

Identify as IEN - 0542

FABRICATED PIPE . . Warehouse service for standard pipe and fittings offers facilities to fabricate railings, pallet racks, pipe structures. Catalog 575-C, 16 pages, has tables of sizes, weights, and dimensional drawings. L. B. Foster Co., P. O. Box 1647-A, Pittsburgh 30, Pa.

Identify as IEN - 0543

PIPE SWIVEL JOINTS . . Ball-bearing design in single, double and triple-swing arrangements, ⅜ to 14 inches. Catalog 1152, Type-HS to 3,000 lb., and Catalog 1052, Type-US to 1,000 lb., 4 pages each, just released. Rasmussen Mfg. Co., 12351 Industrial Ave., Hollydale, Calif.

Identify as IEN - 0544

PLATED PIPE . . Interior of steel pipe and fittings is lined with a corrosion-resistant layer of nickel applied by plating. Original use was for atomic energy. Summary in 4-page "Lectro-Clad Process" bulletin. Bart Mfg. Corp., 225-29 Main St., Belleville 9, N. J.

Identify as IEN - 0545

PLASTIC MATERIALS . . Revised information on Kel-F fluorine-content plastic gives detail figures on its properties in unplasticized form. Bulletin 1-3-53, 6 pages. M. W. Kellogg Co., Box 469-A, Jersey City 3, N. J.

Identify as IEN - 0546

PLASTIC MATERIALS . . Properties and design considerations of Teflon resin are given for electrical, chemical, thermal, non-adhesive uses in new 8-page "Polypenco Teflon". Polymer Corp., 405 Walnut St., Reading, Pa.

Identify as IEN - 0547

PLASTIC MOLDING . . Injection machine that will plasticize 60 lb. per hr. of polystyrene and handle 6.8-oz. shots at 2½ per minute. Bulletin 102, 8 pages. Lewis Welding & Engineering Corp., 28 Interstate St., Bedford, Ohio

Identify as IEN - 0548

PLATING . . Bright cadmium process for plating metal parts including those with deep recesses. Specification summary and examples in 4-page mailing piece, "Bry-Cad". Udylite Corp., 1653 E. Grand Blvd., Detroit 11, Mich.

Identify as IEN - 0549

POLISHING . . Disc-type cloth buffs to cut and color metal surfaces are shown in three basic types and many forms of construction in 12-page Bulletin B-100. Hanson-Van Winkle-Munning Co., 100 Filbag St., Matawan, N. J.

Identify as IEN - 0550

PUNCH PRESS . . 30-ton machine with 24 by 16 to 60 by 16-in. bolster plate size for metal, paper, felt, Masonite, fibre; also a shearing attachment. Catalog P-30, 8 pages. Diamond Machine Tool Co., 5109-13 Coffman-Pico Rd., Pico, Calif.

Identify as IEN - 0551

PROCESS VESSEL DOOR . . Quick-opening design for pressure or vacuum is made in sizes from 3 to 13 ft. id. How it can open in 20 to 30 seconds is in 8-page Bulletin 2435. Blaw-Knox Co., 2050 Farmers Bank, Pittsburgh 22, Pa.

Identify as IEN - 0552

HYDRAULIC PUMPS . . And controls applied to mobile equipment to push, pull, raise, lower or rotate is reviewed in 16-page Catalog M-5101. Power steering is one application. A package-type power unit is another. Vickers Inc., Div. Sperry Corp., 1438 Oakman Blvd., Detroit 32, Mich.

Identify as IEN - 0553

SCREW PUMP . . For non-lubricating fluids and semi-fluid materials with a viscosity range of 32 to 1,000,000 ssu.; 6-page Bulletin SE-5 describes its bracket design. Sier-Bath Gear & Pump Co., 9250 Hudson Blvd., North Bergen, N. J.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8071

an all-purpose oil seal with new long life and a wide range of applications

The new LPD Clipper Seal provides improved sealing efficiency over a wider range of shaft speeds and equipment variables. It is effective under service conditions and temperatures heretofore considered impossible.

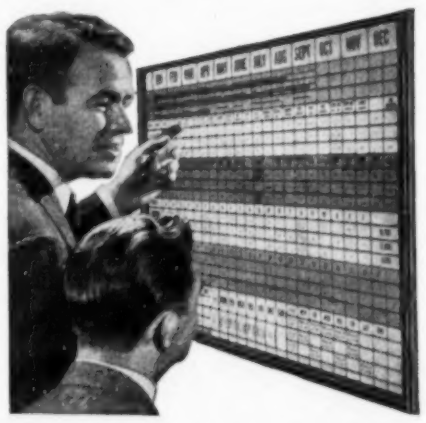
It can be used for practically any application with greater assurance of fewer replacements. Because of its lip design, and compounds used, it requires less lubrication over its bearing area, enabling it to last longer and run cooler. The greater flexibility of its lip enables it to perform better, sealing effectively with minimum torque.

Available in a wide range of heel and lip compounds. For further information write Johns-Manville, Box 60, New York 16, N. Y.

Johns-Manville CLIPPER SEALS

If you write maker identify as IEN - 8072

GRAPHIC VISUAL CONTROL



THE BOARDMASTER SYSTEM

- ★ Graphic Picture of Your Operations—Spotlighted by Color
- ★ Facts at a Glance—Saves Time and Eliminates Confusion
- ★ Simple and Flexible—Easily Adapted to Your Operations
- ★ Easy to Operate—Type or Write on Cards, Snap on Board
- ★ Ideal for Production, Scheduling, Inventory, Traffic, Etc.
- ★ Compact, Attractive. Made of Metal. In Use 6 Years.

Complete Price $49.50 Including Cards

FREE 24-Page ILLUSTRATED BOOKLET E-400 Without Obligation

GRAPHIC SYSTEMS, 55 West 42nd St., New York 36

If you write maker identify as IEN - 8073

Get these facts!

ON QUICK, EASY PRODUCTION OF NYLON MAINTENANCE PARTS FROM POLYPENCO® NYLON ROD . . . STRIP . . . TUBING

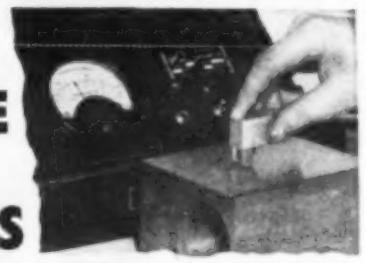
These bulletins give full information on POLYPENCO nylon standard shapes. Cite examples of how to get *all* the advantages of nylon for maintenance parts by fabricating from standard shapes.

- Standard shapes (rod, strip, tubing)
- Formulation and characteristics
- Available sizes and length
- Recommended machining practice

CLIP AND MAIL COUPON NOW!

Polymer Corporation of Penna., Reading, Penna.
Please send full technical and fabricating data ☐
rod, strip and tubing prices ☐
NAME..... TITLE.....
COMPANY.....
ADDRESS.....
CITY..... ZONE..... STATE.....
(Please print)

If you write maker identify as IEN - 8074



You can MEASURE the ROUGHNESS of practically ALL surfaces

✓Internal and External ✓Flat and Round

with the PROFILOMETER

✓In the shop ✓Quickly ✓In microinches

. . thereby saving time and money in unexpected ways!

FREE BULLETIN LT77 gives details — describes production and quality control applications. Write for it!

Profilometer is a registered trade name.

MICROMETRICAL MANUFACTURING COMPANY
345 S. MAIN ST., ANN ARBOR 1, MICH.

If you write maker identify as IEN - 8075

It's no wonder why so many industries

Choose American

the most economical and practical

STORAGE RACKS

Heavy Duty American Skid Rack Installation, The Warner & Swasey Co., Cleveland, Ohio

American

SKID RACKS

American Skid Racks are made in any size, with any underclearance, and can be erected without bolting or welding. Three types are available:

1—Standard Tubular
2—Heavy Duty
3—Extra Heavy Duty

Tiering your skids saves space . . . saves time in handling stock . . . saves time taking inventory . . . everything is always in sight.

Send for Catalogue

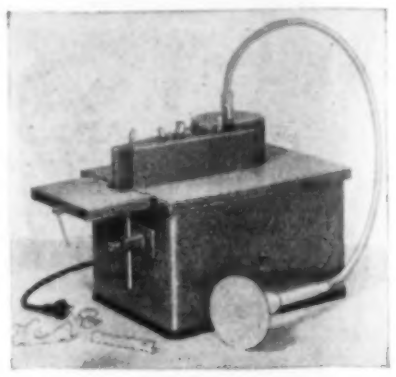
AMERICAN METAL PRODUCTS CO.

STORAGE RACK DIVISION
5959 Linsdale • Detroit 4, Michigan

If you write maker identify as IEN - 8077

SANDING . . Motor driven machine rides belt over small radius finger

Source: VON JONKER CORP.
553 Irvington Station, Indianapolis 19, Ind.



1/3 hp. motor

Multi-Shaper trade names a new sanding machine. A 3 by 27-in. abrasive belt is driven by a pulley mounted on the shaft of a vertical motor to ride over interchangeable small radius tips mounted vertically at the work table. These tips shape the belt to get into recesses in finishing wood, plastics, metals, glass and in burring small castings and stampings. The motor shaft connects also to a flexible shaft for a sanding disc, drum or cone.

If you write maker identify as IEN - 8078

SOLDERING . . Copper tips for irons, electro-clad for long service life

Source: AMERICAN ELECTRICAL HEATER CO.
6108-12 Cass Ave., Detroit 2, Mich.

Permanent bond on copper

The company announces availability from stock of its standard lines of soldering iron tips with an electro deposited cladding known as Eternalloy, previously described IEN-11004-51.

The cladding enables the tip to stand up for periods in service on the order of 100 to 300 hours. The new line supplements but does not replace the company's other types of plated tip for soldering irons.

If you write maker identify as IEN - 8079

SHEARING . . Lever operated tool for mild steel bar stock to 3/4 inch

Source: WHITNEY METAL TOOL CO.
96-100 Forbes St., Rockford, Ill.

Carries to job

Rod Cutter No. 400 is a new hand shear with a movable blade and fixed die, both replaceable. The blade is geared to a 4-ft. hand lever. Mounting can be on the floor, as shown, or on a bench. List price is $50.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8080

A PAID NEWS ADVERTISEMENT BY CLIFFORD MFG. CO.

BELLOWS FOR FLEXIBLE PIPING . . . provide for thermal expansion, simplify alignment, permit flexing of pipes or ducts.

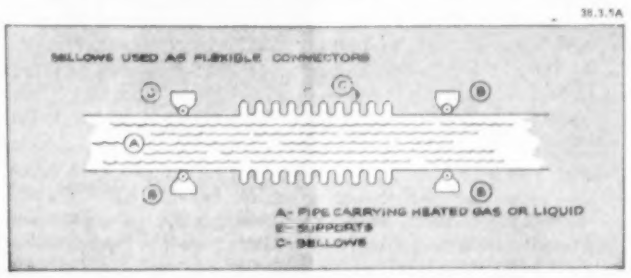


Diagram shows how bellows device allows for thermal expansion of pipe without undue strain on support

Clifford Hydron Bellows bring new versatility to piping and duct systems. Where heated fluids would expand and buckle ordinary piping, the expansion or contraction of the leakproof flexible bellows compensates for dimensional changes. This flexibility also permits side-wise movement of supports with respect to one another.

Another use for bellows flexible joints is in hot air de-icing ducts in aircraft where wing-flexing requires equivalent flexing of the ducts. Other flexible joints for tubing in hydraulic or fuel lines simplify alignment problems during assembly and provide for thermal expansion as well. Clifford stainless steel bellows are available for flexible joints of any diameter from 1/4" to 26 3/8" and serve best where strength, flexibility, corrosion-resistance and leakproof sealing are vital. Clifford is glad to provide "bellows-engineering" help.

Write for bulletin: "What To Consider When Selecting Metallic Bellows."

CLIFFORD MANUFACTURING COMPANY,
146 Grove St., Waltham 54, Mass.
Division of Standard-Thomson Corporation

If you write maker identify as IEN - 8081

MERRILL MATERIALS HANDLING DEVICES

MERRILL BROTHERS
56-14 ARNOLD AVENUE MASPETH, N. Y.

If you write maker identify as IEN - 8082

To get better prints ... faster

Tapco Plant, Thompson Products, Inc., uses Kodagraph Autopositive intermediates in print production.

The Tapco Plant knows full well that illegible shop prints pave the way for costly reading errors; knows, too, that Kodagraph Autopositive intermediates are low-cost insurance against such a possibility.

It therefore reproduces its more critical and complex jet and valve drawings on Kodagraph Autopositive Paper Translucent and thus obtains—quickly and easily—sparkling "masters" for print making which have dense photographic black lines on an evenly translucent, premium-quality paper base; *which* will produce highly legible whiteprints time after time at *stepped-up* machine speeds.

Extremely fine-detailed drawings are reproduced on Kodagraph Autopositive Film, which captures the faintest detail . . . keeps close lines from "filling in" . . . and produces top-quality photographic intermediates with extremely fast print-back speeds.

No negative step . . . no darkroom handling. Kodagraph Autopositive Paper and Film are handled in exactly the same manner . . . produce positive photographic intermediates *directly*. First, they are exposed in one of the Tapco Plant's direct-process machines—or in a photocopy unit. Then, they receive standard photographic processing. A fast, convenient room-light operation all the way. And no new equipment needed.

Write today for a free copy of "Modern Drawing and Document Reproduction." It gives complete details on the revolutionary line of Kodagraph Reproduction Materials, which you, or your local blueprinter, can process conveniently, economically.

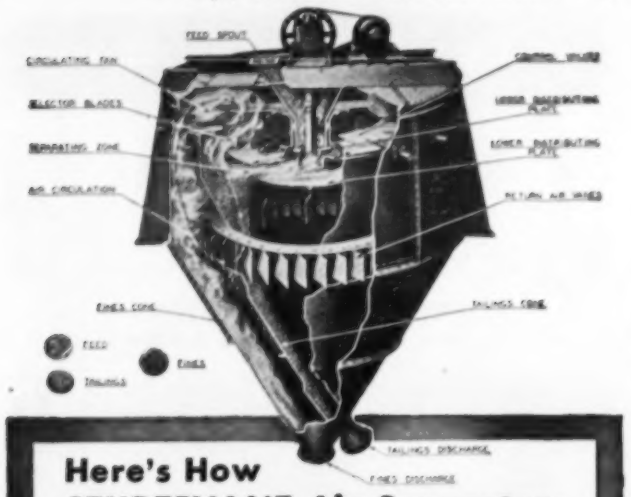
Kodagraph Autopositive Materials

"THE BIG NEW PLUS" in Engineering Drawing Reproduction

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak

If you write maker identify as IEN - 8084



Here's How STURTEVANT Air Separators Increase Production of Fines ...Lower Production Costs

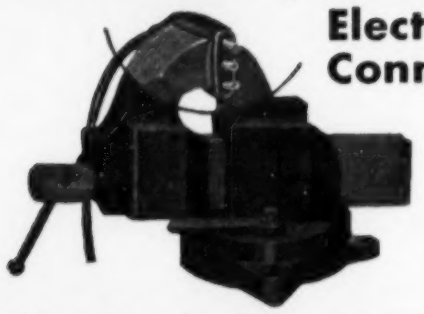
Sturtevant Air Separators effect production savings by increasing output by 25 to 300% . . . reducing power consumption by as much as 50%.

They efficiently carry off all classified materials in any desired fineness from 40 to 325 mesh and finer . . . eliminate the need of screening in certain applications. Capacities available from ¼ to 50 tons per hr. *Write for full details, today.*

Sturtevant Mill Company
113 Clayton Street, Boston 22, Mass.

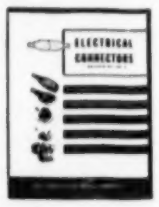
If you write maker identify as IEN - 8085

Shatterproof Electrical Connectors



Working conditions often subject electrical connectors to jerks . . . blows . . . and squeezing action, as bad as that pictured above. When this happens many apparently good connectors quickly become out-of-shape, develop insulation cracks and loose contacts . . . or literally explode.

Not JOY portable plugs and sockets however . . , their one-piece molded Neoprene construction and patented contact design provide many advantages not found in other brands.



yours . . . *ask for it*

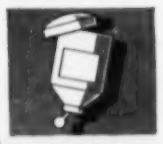
Bulletin MC108 provides valuable additional information on JOY electrical plugs and receptacles. Ask us for your free copy.

M.E 153.9

JOY MANUFACTURING COMPANY
HENRY W. OLIVER BUILDING, PITTSBURGH 22, PENNSYLVANIA
IN CANADA: JOY MANUFACTURING COMPANY (CANADA) LTD., GALT, ONTARIO

If you write maker identify as IEN - 8086

THREE REASONS WHY SOME PEOPLE ARE PENNY-WISE AND POUND FOOLISH ON SOAP COSTS



1 Defective Dispensers

2 Inefficient Soap

3 Slow Acting Soap

Defective or obsolete dispensers (wasting soap), inefficient soap (causing dryness, chapping, etc.) and slow sudsing soap (causing congestion in washrooms—you pay for the "lost time") are just three of many reasons why you may be throwing away hundreds of soap dollars in your plant washrooms.

Get the answer to these and other questions about your soap costs the easy way. Mail the attached coupon for a FREE "SBS-Soap-Saver-Survey" today at absolutely *NO Obligation* on your part.

SUGAR BEET PRODUCTS CO., SAGINAW, MICHIGAN
Chemical By-products Division • Established 1909
MANUFACTURERS OF THE COMPLETE LINE OF SBS INDUSTRIAL SKIN CLEANSERS

91

SUGAR BEET PRODUCTS CO., Dept. 6E, SAGINAW, MICHIGAN
Yes—we want a cost reducing "SBS Soap-Saver-Survey" of our plant without charge or obligation.
NAME
TITLE
COMPANY
CITY ZONE STATE

NEW LITERATURE—Continued

Identify as IEN - 0554

SAW BLADES . . Metal-cutting circular saws are ground with teeth alternately high and low so the first will take out a center roughing chip and the second will cut two corner chips. Sizes in 8-page Bulletin 100-CT. Motch & Merryweather Machy. Co., 715 Penton Bldg., Cleveland 13, Ohio

Identify as IEN - 0555

PORTABLE SAWS . . Operating instruction manual on the Speedmatic portable electric saw describes standard applications and a number of special jobs it will do. Bulletin S-18, 40 pages, copyright 1952 but not distributed previously. Porter-Cable Machine Co., 22 Exchange St., Syracuse 8, N. Y.

Identify as IEN - 0556

SEALING EQUIPMENT . . Impregnate castings with a copolymer material, urges 8-page "Metaseal" booklet, to prevent leaks, stop corrosion, seal against finish failure, permit pressure-bonding and keep out bacteria. American Metaseal, 30 E. 60th St., 6th Flr., New York 22, N. Y.

Identify as IEN - 0557

AUDIBLE SIGNALS . . Horns, buzzers, sirens, howlers for paging, signaling, communicating, timing, warning. Where to use them, how to select them, information on sound, code calls, in 44-page "Signal Guide Book". Benjamin Electric Mfg. Co., 50 Staud St., Des Plaines, Ill.

Identify as IEN - 0558

SIGNS . . Safety, accident-prevention, hazard, directional and information signs, also types for parking and traffic control, all made of enameled steel. Titles and list prices in 6-page Price List. Eastern Metal of Elmira Inc., 128-32 Harrison St., Elmira Heights 3, N. Y.

Identify as IEN - 0559

STAINLESS STEEL . . Chromium steel to use in place of 18-8 for resistance to corrosion and heat scaling. Workability, properties, forms, in 4-page letterhead, "No. 3, Type 443". Carpenter Steel Co., 151 W. Bern St., Reading, Pa.

Identify as IEN - 0560

STAINLESS STEEL BARS . . Metal finder chart on 34 analyses, corrosion resistance to materials from acetone to molten zinc, recommendations on machining and welding, annealing and heat treating, weight tables, all contained in Bulletin SS-26, 28 pages. Allegheny-Ludlum Steel Corp., 2036-A Oliver Bldg., Pittsburgh 22, Pa.

Identify as IEN - 0561

SWITCHES . . Stock list of some 150 types by many makers includes toggle, leaf, miniature, plunger, vacuum-pressure, circuit breakers, timers. Catalog C-11, 16 pages. Wells Sales Inc., 331-35 W. Chicago Ave., Chicago 22, Ill.

Identify as IEN - 0562

TEST INSTRUMENT . . To make rapid quantitative chemical analyses by X-ray absorption, company suggests its new X-ray photometer. What kind of work it will do, schematic, operating procedure, in 8-page Bulletin GEC-412B. General Electric Co., Dept. 6X-201, Schenectady 5, N. Y.

Identify as IEN - 0563

COLOR TESTING . . Instrument to make color and color-difference readings on paint, paper, ceramic, textile, plastic, other materials. Bulletin 131, 6 pages. Henry A. Gardner Laboratory Inc., 4725 Elm St., Bethesda 14, Md.

Identify as IEN - 0564

FLAW TESTING . . Dye-penetrant method of detecting flaws or defects in a surface can be used in plant or field. One type is for individual parts, a second is for production parts. Both are shown in 12-page "Flaw Location". Turco Products Inc., 6133-37 S. Central Ave., Los Angeles 1, Calif.

Identify as IEN - 0565

GAS TESTING . . Speedomax gas-analysis equipment uses thermal-conductivity method of determining gas concentration. Types of gases handled, recording and control assemblies are in 8-page Bulletin ND46-91(2). Leeds & Northrup Co., 4934 Stenton Ave., Philadelphia 44, Pa.

Identify as IEN - 0566

MOISTURE TESTING . . "Pushbutton" automatic instrument determines moisture content of paper, petroleum, foods, other materials in a minute or two. Method is described in 4-page Bulletin 307 on the company's Aquameter. Beckman Instruments Inc., 800 Mission St., South Pasadena 1, Calif.

Identify as IEN - 0567

TIMING . . Electric synchronous motor-driven timers for a variety of intervals, single and multiple circuit, time delay. File folder, "Time Controls", 14 sheets. Industrial Timer Corp., 117 Edison Pl., Newark 5, N. J.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8087

Garland Rawhide Mallets and Hide-Faced Hammers are made of resilient Water Buffalo Hide, the toughest rawhide known. Will not damage steel, iron, brass, aluminum or other soft metals.

Longer wear and uniformly exact size result from compression under many tons pressure.

Extra faces fit securely without grinding.

Write for free folder listing sizes, weights, and prices.

We will send you the name of your local dealer on request.

Garland MFG. CO. SACO, MAINE
Manufacturers of Rawhide Hammers, Mallets, Loom Pickers

If you write maker identify as IEN - 8088

HOW TO MAKE THE WORLD'S SAFEST, MOST COMPACT CONNECTION

(1) FASTEN WIRES WITH "SCOTCHLOK" (2) INSULATE WITH "SCOTCH" NO. 33

Twist on "Scotchlok"—the toughest, tightest-gripping spring connectors ever made—and snap off winding stem. Compact, never shakes loose. Insulate as shown with "Scotch" Plastic Electrical Tape No. 33. Only .007 inch thick with 10,000 volt dielectric strength. Order today!

The term "Scotch" and the plaid design are registered trademarks for the more than 200 pressure-sensitive adhesive tapes made in U.S.A. by Minnesota Mining & Mfg. Co., St. Paul 6, Minnesota.

SCOTCH BRAND Electrical Insulating Products

If you write maker identify as IEN - 8089

POSITIVE ACTION UNDER ALL CLIMATIC CONDITIONS

This hermetically sealed precision snap switch is the answer where sand, dust, ice, humidity, oil, grease, water or fungus cause ordinary switches to fail.

Here is the story on the Haydon hermetically sealed snap action switch:

1. Smallest hermetically sealed switch on the market
2. Longer life
3. High contact pressure — resistant to vibration
4. Actuator pin bonded in specially developed silicone (like a shock mount)
5. Available in single pole, double throw — two-circuit type or double pole, double throw. (DPDT is slightly larger.)
6. Interchangeable mounting-wise with certain other widely used unsealed switches.
7. Sealed construction assures positive operation under practically all climatic conditions (from −70°F to +200°F)

For Adverse Environmental Conditions..... Specify **HAYDON'S** *New Hermetically Sealed Precision Snap Switches*

Currently Being Used in Aircraft Applications

Send for descriptive bulletin

HAYDON SWITCH CO. 232 NORTH ELM ST., WATERBURY, CONN.

If you write maker identify as **IEN - 8090**

Tough...

FOR THE TOUGH JOBS!

BIDDLE

Shackle Bolts

BIDDLE Shackle Bolts *are* tough. They're made to take the load where hardened and ground bolts, drilled and tapped for grease fittings, are needed. Made from 1020 steel, BIDDLE Shackle Bolts are knurled under the head for locking, threaded and cotter drilled for SAE Castle Nuts, and drilled, tapped and threaded for standard grease fittings. They are carburized, hardened to Rockwell "C" 50-55 and are ground. BIDDLE Shackle Bolts are available in 66 sizes from 9/16th inch to 1¼ inch in diameter and from 3¼ inch to 8 inches in length. Special sizes to customer specifications. Small quantities available in stock sizes. If you are looking for a tough bolt for the tough jobs . . . BIDDLE Shackle Bolts fit your needs.

Write today for more complete information and specifications.

NATIONAL SCREW MACHINE PRODUCTS ASSOCIATION

BIDDLE SCREW PRODUCTS COMPANY
SHERIDAN, INDIANA

If you write maker identify as **IEN - 8091**

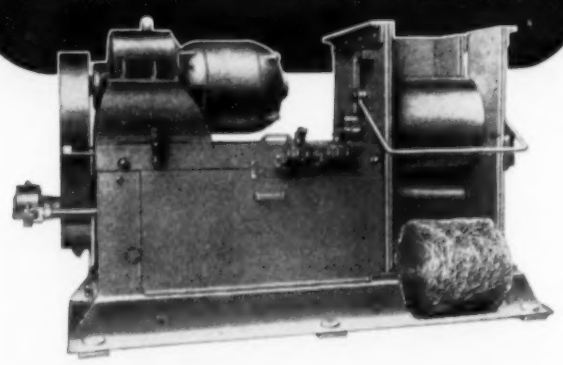
NOW! Bundle Scrap

into

18" and 24" Diameter Bundles

EASY TO HANDLE, SHIP, REMELT OR STORE . . . with the

McLanahan SCRAP BUNDLER



Designed for efficient bundling of scrap wire and strip metals, anything of a stringy nature, the new McLanahan Scrap Bundler "wraps" scrap into compact cylinders for easy handling. Fast and economical in operation, this new machine is the answer to your scrap bundling problems.

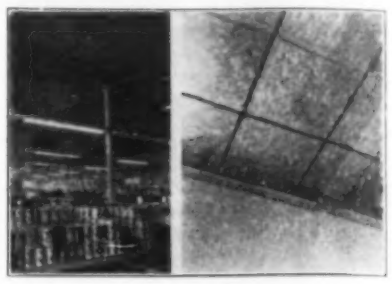
Write for new "Scrap Bundler" Bulletin Today!

McLANAHAN and STONE Corp.
Hollidaysburg, Pa. SINCE 1835

If you write maker identify as **IEN - 8093**

STRAPPING . . Combination assembly with glass blanket to install ceiling

Source: SIGNODE STEEL STRAPPING CO.
2630 N. Western Ave., Chicago 47, Ill.



Strap Web System

New application has been made of the company's standard steel strapping in connection with glass fiber blanket insulation as manufactured by Gustin-Bacon and cartridge power drive fastenings to construct a drop ceiling that is efficient and inexpensive. The insulating blanket is known as Ultralite. The cartridge powered fastenings were driven by tools made by Powder Power Tool Corporation. The construction is particularly suited for old buildings with high ceilings where an advantage is obtained by lowering the ceiling and by insulating at the same time.

If you write maker identify as **IEN - 8094**

INSULATING . . Silicone rubber for coating and encapsulating uses

Source: GENERAL ELECTRIC CO.
101 Plastics Ave., Pittsfield, Mass.

Also for gaskets heater ducts

Type SE-100 is a new putty-like silicone rubber. It is characterized by physical toughness and electrical strength at temperatures to 315 deg. C. The material can be coated on glass tape, glass wrappers and other insulating materials. It can be employed to encapsulate electrical components with a tough flexible film that protects against moisture and physical damage at the same time that it insulates electrically. The material remains flexible at minus 60 deg. C. It will not soften or flow at 315 deg. C. It is available as a 100 per cent solids material or as a 35 per cent solids dispersion in xylene.

If you write maker identify as **IEN - 8095**

COMMUNICATING . . Telephone booth, weatherproof design for outdoor use

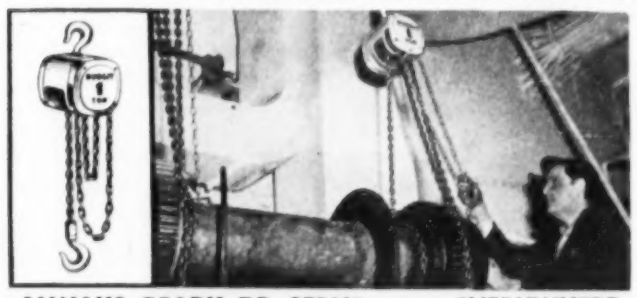
Source: CHURCHILL CABINET CO.
2117-21 Churchill St., Chicago 47, Ill.

Shipped set up

Dimensions are 30 by 30 by 86 in. for this new wood and plate glass telephone booth. Standard color is slate gray. Other colors can be specified. The interior is equipped with a writing shelf and provision to mount a pay-station telephone. The hinged door at the front provides complete enclosure.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 8096**



ALWAYS READY TO SERVE . . . EVERYWHERE

Work always turns up for a hoist one man can carry easily, hang up and use by himself. The 'Budgit' Aluminum Chain Block combines lightness with toughness, and provides the speed and efficiency of spur-geared hoisting action. The one-ton size weighs but 29 lbs. and with a pull of only 25 lbs. on the hand chain, it will lift the full load!

The 'Budgit' Chain Block has no equal for spot-lifting. Maintenance, construction, and emergency jobs — all are handled in double-quick time. And, when it comes to strength, the 'Budgit' is a very tough light-weight. An ordinary hacksaw can't cut the load chain, it's so tough. Splined fastenings distribute the loading evenly on the shafts. Non-fracturing hooks add an extra margin of safety. Smooth, easy lowering is assured by the fast-acting automatic load brake. Capacities: ¼, ½, 1 and 2 tons. Your nearby "Shaw-Box" Distributor will gladly give you details — or write for Bulletin 398.

'Budgit' ® CHAIN BLOCKS

MANNING, MAXWELL & MOORE, INC.
Muskegon, Michigan

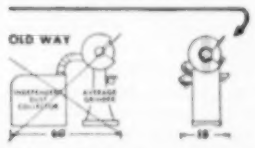
Builders of "Shaw-Box" and 'Load Lifter' Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties. Makers of 'Ashcroft' Gauges, 'Hancock' Valves, 'Consolidated' Safety and Relief Valves, 'American' Industrial Instruments, and Aircraft Products.

If you write maker identify as **IEN - 8097**

Hammond of KALAMAZOO

2 IN 1 NO-DUST GRINDER

SAVE OVER 50% FLOOR SPACE THE HAMMOND WAY



DUST-LADEN AIR IS A MENACE!

- Protect your employees' health.
- Protect nearby machine tools from dust and grit.
- Save floor space — requires only 6½ square feet.

For 10", 12", and 14" wheels.
Write for Catalog.

Hammond Machinery Builders INC.
1607 DOUGLAS AVENUE • KALAMAZOO 54, MICHIGAN

If you write maker identify as **IEN - 8098**

PROBLEM:

To get a Thermostat Element with the stability to operate for 100 years without calibration

SOLUTION:

General Plate TRUFLEX® Thermostat Metal provided this stability

The Museum of Science and Industry laid its "living" cornerstone September 3, 1952, thus starting a one hundred year experiment.

Within the 1-ton limestone block is a specially fabricated monel box containing a score of physically or biologically "alive" items from bacteria to metals . . . including a thermostatic clock which will record the years.

This clock is constructed to register once as the temperature falls to 20°F and will not count again until the temperature has risen to 85° and again fallen to 20°. It will register once each winter and count the number of years that have passed since the laying of the cornerstone.

Essential to the reliability of the clock was a thermostat element which would keep its stability without further calibration for 100 years.

The scientist concerned with the project presented the problem to General Plate whose engineers provided the solution with a specially designed Truflex thermostat metal element.

You, too, can obtain constant and accurate performance in your products because General Plate fabricates to your exact specifications, complete Truflex thermostat metal units ready for installation.

If you prefer to make your own assemblies, General Plate will produce Truflex thermostat metal sheet or strip to your material specifications. Write for information or engineering assistance.

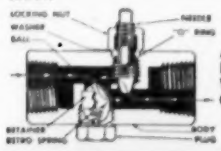
METALS & CONTROLS CORPORATION
GENERAL PLATE DIVISION
77 FOREST STREET, ATTLEBORO, MASS.

If you write maker identify as **IEN - 8099**

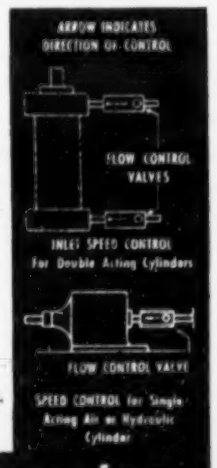
Get Easier, More Accurate Cylinder Speed Control

with **Pneu-Trol** VALVES IN AIR OR HYDRAULIC USE

Pneu-Trol Valves combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Improved "O" Gland structure seals and locks the fine needle setting when speed adjustments are made. Retro ball floats in most sensitive position to seat, requiring only a slight differential pressure to fully open or close it. Pneu-Trol Flow Valves are available in 5 female pipe sizes — ⅛" to ¾". Valve bodies are made from brass, aluminum, steel or stainless steel.



Attractive Prices — Immediate Delivery Write for Illustrated Circular and Price List.



Pneu-Trol Devices, Inc.
1438 N. Keating Ave., Chicago 51, Ill.

If you write maker identify as IEN - 8100

DAY DUST CONTROL
SINCE 1881
A SINGLE UNIT OR A COMPLETE SYSTEM

DAY "AC" FILTER HAS 99.99+% FILTERING EFFICIENCY

The new efficiency achieved with the DAY "AC" Dust Filter provides benefits not possible with conventional filters. Its 99.99+% filtering efficiency applied to your plant will give you better dust control, larger recovery of valuable product, minimized plant hazards and more economy in space, installation and maintenance costs.

72 YEARS' EXPERIENCE IN INDUSTRIAL DUST CONTROL

Since 1881, The DAY Company has specialized in the engineering, manufacture and installation of dust control systems for industry. If you have a dust problem, DAY can provide an effective and economical solution.

WRITE FOR NEW BULLETIN

It will give you detailed facts and figures on the DAY "AC" Dust Filter and other DAY equipment.

The DAY Company
813-3rd Avenue N.E. • Minneapolis 13, Minnesota
IN CANADA: P.O. Box 70T, Ft. William, Ont.
Branch Plants in Buffalo, Ft. Worth and Welland, Ont.

If you write maker identify as IEN - 8101

LOW COST POWER TRANSMISSION

Line-O-Power Drives—Straight line and right angle (horizontal and vertical) units. Vertical available for extended output shafts.

Foote Bros.-Louis Allis Gearmotors—17 sizes with output speeds from 7.5 to 780 r.p.m. and capacities of 1 to 150 h.p.

Maxi-Power Helical Gear Drives—42 sizes available in this heavy-duty line. Ratios 2.08 up to 360 to 1, capacities up to 1550 h.p.

Hygrade Worm Gear Drives—Horizontal and vertical types. Hytop vertical accommodates long, unsupported output shafts.

WRITE FOR BULLETINS
LFB—Line-O-Power Drives
GMA—Foote Bros.-Louis Allis Gearmotors
HGB—Hygrade Worm Gear Drives
MPB—Maxi-Power Helical Gear Drives

FOOTE BROS.
FOOTE BROS. GEAR AND MACHINE CORPORATION
4545 S. WESTERN BOULEVARD, CHICAGO 9, ILLINOIS

If you write maker identify as IEN - 8102

Save DOLLARS

—SPEED PRODUCTION

with DESTACO TOGGLE CLAMPS

De-Sta-Co Toggle Clamps are extremely flexible in their application and are economically and easily adapted to work-holding fixtures for assembly, welding, bonding, machining or other production processes. Smooth, fast, powerful clamping action clamps parts quickly . . . holds them firmly in perfect alignment . . . releases instantly for easy removal and insertion of new workpiece.

De-Sta-Co clamps are engineered for rugged use in production; reamed bearing holes insure precision fit, long life and sensitive operation . . . offsets in handles and links relieve friction . . . made with cold drawn bars, and forged portable clamp parts. Accessories for adapting clamps to specific applications are available.

Write today for name of nearest distributor and your copy of the De-Sta-Co catalog which describes over 40 fixture and portable models with positive holding pressures up to 4000 pounds.

DESTACO DETROIT STAMPING COMPANY
342 MIDLAND AVENUE • DETROIT 3, MICH.

NEW LITERATURE—Concluded

Identify as IEN - 0568

TRANSFORMERS . . Specialty machine-tool, signal-operating, control and general-purpose dry-type transformers. Bulletin B-5806, 20 pages. Westinghouse Electric Corp., 511 Wood St., Dept. IEN, Rm. 1110, Pittsburgh 30, Pa.

Identify as IEN - 0569

FORK TRUCK . . Look over the features of experimental Model X-70 fork lift truck as shown in 16-page "Meet the Fork Truck of the Future", then fill in a blank form to let the company know your opinion. No obligation. Clark Equipment Co., Battle Creek 49, Mich.

Identify as IEN - 0570

FORK TRUCK . . Two-ton electric unit has new 3:1 ratio hoist assembly. Details and a turn-radius diagram on the YAK-430 model are in 6-page Bulletin 430. Mercury Mfg. Co., 4132 S. Halstead St., Chicago 9, Ill.

Identify as IEN - 0571

POWER TRUCKS . . Platform, tractor and lift models are summarized in condensed specification Bulletin 1551-B, 6 pages, to give you a quick review on this material-handling equipment. Buda Co., 15401 S. Commercial St., Harvey, Ill.

Identify as IEN - 0572

FLEXIBLE METAL TUBE . . Helical-wound and helical-corrugated with a braided metal jacket to handle steam, gases and liquids, to use as electric conduit, shielding, vibration elimination. Sizes, end fittings, applications and suggestions on installation and care in 52-page Catalog 200. Titeflex Inc., 593 Frelinghuysen Ave., Newark 5, N. J.

Identify as IEN - 0573

VALVES . . Bronze, iron and steel valves, lubricators, cocks, boiler mountings in Catalog 53. A selector guide occupies 24 pages, reference data 100 pages, of the 506-page catalog. Reserve a copy by writing to the company. The catalog will be delivered personally. Lunkenheimer Co., P. O. Box 360-A, Annex Station, Cincinnati 14, Ohio

Identify as IEN - 0574

VALVES . . Globe, needle, plug, check, relief and special valves for hydraulic, lubricating, fuel, steam, air, vacuum, chemical and other lines, pressure gage snubbers. Catalog 352-A, dated November 1952, just released. Republic Mfg. Co., 1928-32 W. 77th St., Cleveland 2, Ohio

Identify as IEN - 0575

RELIEF VALVE . . Safety valve for refrigerants has stainless-steel seat and moving parts. Relieving capacity table, sizes and an internal view in 4-page Bulletin 194, "Type AF valve". Frick Co., 320 Broadway, Waynesboro, Pa.

Identify as IEN - 0576

VIBRATING . . Pneumatic vibrators in six sizes to use on bins, hoppers, chutes, railroad cars, concrete forms. Catalog 106, 6 pages, includes a request blank. Cleveland Vibrator Co., 2736 Clinton Ave., Cleveland 13, Ohio

Identify as IEN - 0577

VISES . . Angle, drill-press, milling-machine, adjustable-base vises, also rotary tables, and a milling attachment. Sizes and list prices in 8-page Catalog 200. Chicago Tool & Engineering Co., 8406 S. Chicago Ave., Chicago 17, Ill.

Identify as IEN - 0578

ARC TORCH . . Heliarc equipment for inert-gas-shielded arc welding of difficult metals, using a tungsten electrode. Hand and machine models in 20-page Form F-7979. Linde Air Products Co., 30 E. 42nd St., Rm. 308, New York 17, N. Y.

Identify as IEN - 0579

WELDING ELECTRODES . . Selection chart on some 30 types including stainless, mild steel, cast iron, low hydrogen, hard facing in new 52-page pocket booklet Catalog 1318. Air Reduction Sales Co., 1656 Lincoln Bldg., New York 17, N. Y.

Identify as IEN - 0580

WOOD WORKING . . Hand tools including auger bits, brace drills, expansion bits, chisels, draw knives, screw drivers, individually and in sets. Catalog 35-H, 16 pages. Greenlee Tool Co., 2134-38 Twelfth St., Rockford, Ill.

Identify as IEN - 0581

PIPE WRENCHES . . Pipemaster, Stillson and offset designs, also pipe vises, pipe threading and cutting tools, cutter wheels, strap wrenches, bar vises. Catalog 353, 12 pages. Erie Tool Works, 12th & Liberty Sts., Erie, Pa.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8103

Lick those leaks—with less re-packing

Quaker SHEET PACKING

Put a stop to production stoppers! Re-pack with Quaker—the *super-tough* sheet packing that's *long-life engineered!* It defies high pressures and other "tortures" from steam, gas, vapors or acids. It expands where it should, stays pliable, resists vibration—lasts for incredibly long periods. Whatever type of packing your job requires—Quaker has it, for low-cost, trouble-free service.

Write for name of nearest distributor

QUAKER RUBBER CORPORATION
DIVISION OF H. K. PORTER COMPANY, INC.
OF PITTSBURGH
Dept. E, Philadelphia 24, Pa.
Branches in Principal Cities

If you write maker identify as IEN - 8104

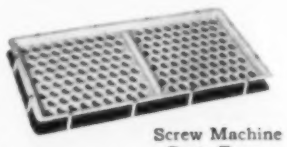
U. S. Royalite Tote Boxes...
Your Answer to Efficient Industrial Housekeeping

Yes, the problems industry faces in keeping efficient inventories, making production lines run smoothly, keeping space-waste and weight to a minimum are solved by tough, lightweight U. S. Royalite.

In Tote Box form, this versatile thermoplastic provides factories with a *one-piece* box that is waterproof, stainproof and not affected by oils, alkalies and most acids.

And U. S. Royalite Tote Boxes are available in a variety of shapes and sizes and in a wide range of permanent colors. Send for full information on how U. S. Royalite Tote Boxes or U. S. Royalite itself can improve your products . . . cut production time and costs. Write Dept. IEN-1.

Tray for X-Raying Spark Plugs


Screw Machine Parts Tray

Check List of U. S. ROYALITE Advantages:

- ✓ Lightweight
- ✓ Tough
- ✓ Non-splintering
- ✓ Non-warping, non-corrosive
- ✓ Impervious to oils, most acids, alkalies
- ✓ Highly resistant to impact
- ✓ Waterproof, stainproof
- ✓ Easily formed on low-cost tools
- ✓ Prefinished to your specifications
- ✓ Color-permeated throughout
- ✓ Available in sheets
- ✓ Stable under changing atmospheric conditions
- ✓ Exceptional electrical insulating qualities
- ✓ Low rate of heat conductivity

U.S. ROYALITE
TOUGH PLASTIC PRODUCTS

UNITED STATES RUBBER COMPANY
2638 North Pulaski Road, Chicago 39, Illinois

If you write maker identify as IEN - 8106

HIGH PRESSURE AIR TRAPS

for Automatic Drainage of Air and Gas Systems at Pressures to 2000 lbs.

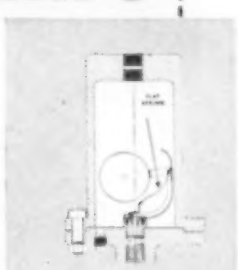
1. BALL FLOAT TRAPS
a. *Snap-Action*—to 1000 psig. Spring-powered valve snaps open and closed. No hunting or dribbling. Not held open by fine dirt.

b. *Direct Action*—to 1500 psig. Recommended where no oil or dirt are encountered.

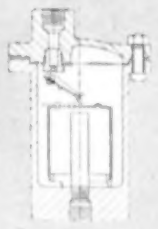
2. INVERTED BUCKET TRAPS
—pressures to 2000 psig. None more dependable—not adversely affected by dirt or heavy oil.

Submit your problem for detailed recommendation.
ASK FOR BULLETIN 2021.

ARMSTRONG MACHINE WORKS
888 Maple Street
Three Rivers, Michigan



No. 71-315
SNAP-ACTION
BALL FLOAT TRAP



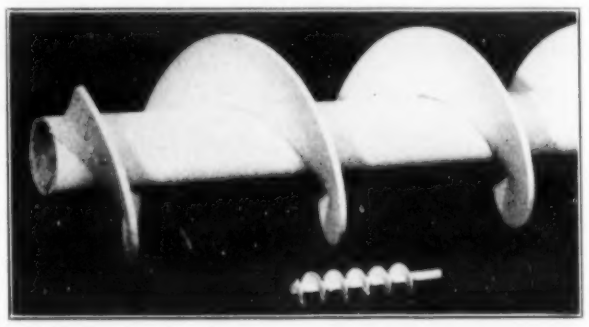
No. 313
INVERTED BUCKET
TRAP

ARMSTRONG *Air and Gas* **TRAPS**

If you write maker identify as IEN - 8107

BOTTLES TO BOXCARS

The large worm shown below is used for unloading boxcars while the small worm is used for filling bottles. An illustration of the sizes and designs available.



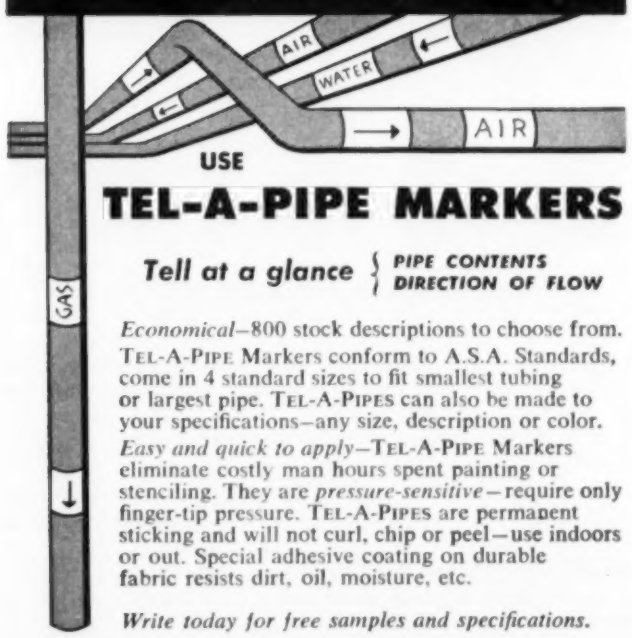
Helicoid and Ribbon,

WORMS AND SPIRALS

JAMES EAGEN & SONS
WEST WYOMING, PA.

If you write maker identify as IEN - 8108

FOR FAST, ECONOMICAL
PIPE IDENTIFICATION



USE
TEL-A-PIPE MARKERS

Tell at a glance { ***PIPE CONTENTS*** / ***DIRECTION OF FLOW***

Economical—800 stock descriptions to choose from. TEL-A-PIPE Markers conform to A.S.A. Standards, come in 4 standard sizes to fit smallest tubing or largest pipe. TEL-A-PIPES can also be made to your specifications—any size, description or color.

Easy and quick to apply—TEL-A-PIPE Markers eliminate costly man hours spent painting or stenciling. They are *pressure-sensitive*—require only finger-tip pressure. TEL-A-PIPES are permanent sticking and will not curl, chip or peel—use indoors or out. Special adhesive coating on durable fabric resists dirt, oil, moisture, etc.

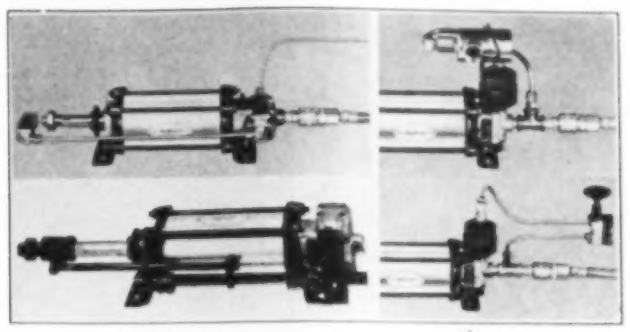
Write today for free samples and specifications.

WESTLINE PRODUCTS DIVISION
WESTERN LITHOGRAPH CO.
600 East Second Street, Los Angeles 54, California

If you write maker identify as IEN - 8109

CYLINDER . . Double acting pneumatic with valves to meet given requirements

Source: BELLOWS CO.
230 W. Market S., Akron 9, Ohio



Complete line in Bulletin CL-50

Illustrated are four assemblies of the company's double acting pneumatic power cylinder with valves selected from the complete available range of designs to meet given needs. The company is prepared to recommend the valve type and to supply it in built-in assembly on the cylinder. Operation can be with electrical, mechanical or pneumatic control.

Model BARM, to the upper left in the illustration, employs the company's standard slide valve located at the end of the cylinder. It is shifted by upsetting normal air pressure balance within the valve by means of air operated poppet valves. These are small normally closed two-way spring return valves, which act like spring return electric switches. They are connected by pipe to the valve end caps. Momentary pressure on the plunger of one of the two spring return units permits sufficient air to escape to upset the normal air pressure within the valve housing thus shifting the slide valve and reversing the cylinder movement.

Type BSKM, to the upper right, provides for electric control direct from a power line. The valve operates on a maintained contact basis to result in instant shift and return of the cylinder to "retract" position in the event of power failure. This differs from the company's previously developed Electroaire low voltage electric control valve in which power failure will leave the piston in the position it stood at the moment of failure. The actual work of shifting the main slide valve is by the incoming air pressure in this assembly as well as in the others in the line.

Model BAPV, to the lower right, is identical in its operating characteristics with Model BSKM, except that instead of using electric power for control it employs the high pressure air through a pushbutton controlled three-way normally closed air valve. This valve is connected between the pilot and a side connection on the incoming high pressure line. As long as the small three-way valve is held open, the high pressure air against the valve piston will hold the slide valve in its shifted position. When air pressure is released, the slide valve reverses and the cylinder piston returns to "retract" position.

Model BCAM, to the lower left, provides continuous cycling without electric control and also makes provision for an adjustable stroke. In this case the poppet valves are tripped mechanically by control rods on the side of the main cylinder. Controls built into the valve assembly permit adjustment of the piston rod speed in either or both directions.

If you write maker identify as IEN - 8110

TAPE . . Self-adhesive, paper back for masking and to make printed labels

Source: ARNO ADHESIVE TAPES INC.
E. 6th & Tommas Sts., Michigan City, Ind.

Good to print on

Adhesion to a Bakelite panel tests at 18 oz. for this new Type C-610 self-adhesive paper tape. Tensile strength is 21 lb. per inch of width. Color is white and thickness measures 0.008 inch. The adhesive will not stain metals or lacquer finishes. It is non-toxic. It strips clean, after it has passed through a drying oven, from work on which it has been used for masking. The tape is made in 36-in. width and can be cut to specified width starting at ½ inch. Rolls contain 60 or 120 yards in standard packaging.

If you write maker identify as IEN - 8111

CASTER . . For dollies, box trucks, to be used in moderate duty service

Source: SERVICE CASTER & TRUCK CORP.
545 N. Brownswood Ave., Albion, Mich.

Coined raceways

Five wheel sizes are from 3¼ to 8 in. in this new light weight line known as PressWeld. Steel fork and top plate, hardened raceways, hollow bolt-and-nut axle, heat treated bolt-and-nut king pin, Zerk lubricant fittings are standard construction. The wheels are available in Ni-Steel, rubber or molded plastic construction.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8112

60-DAY FREE TRIAL
of America's most popular industrial stool

A tired worker costs MUCH more than a good chair

- 4-way adjustable backrest
- Scroll shaped posture seat
- Tamper-proof tubular all-welded construction
- 3 adjustable height ranges.

Now test Royal's famous No. 515 stool in your own plant without cost or obligation. See why the country's top firms choose it for superior versatility and durability. Write for free trial stool today!

metal furniture since '97 Royal

ROYAL METAL MANUFACTURING CO.
175 North Michigan Avenue, Dept. 207, Chicago 1

If you write maker identify as IEN - 8113

This new idea generator packed with facts about BAKELITE Polyethylene can help turn your ideas into tomorrow's profits

New 24-page booklet shows how the unusual combination of properties of BAKELITE *Polyethylene* can make products look better, work better, cost less, and sell more.

You can see how products benefit by BAKELITE *Polyethylene's* flexibility, light weight, chemical resistance, low water permeability, excellent dielectric properties, impact resistance, formability.

You can learn the many different ways you can fabricate BAKELITE *Polyethylene* . . . how it can be injection or blow-molded; extruded as film, tubing, rod, tape, monofilaments; calendered, cast, or applied to other materials as hot-melts or by flame-spraying.

You can plan for a bigger future, now, by investigating what BAKELITE *Polyethylene* can do for your own products, when it becomes more freely available. New plants are under construction to expand production in order to alleviate present short supply. Time your own development work so you will be ready. Start today, by writing for a free copy of this idea-stimulating booklet. Write Dept. QR-14.

BAKELITE Polyethylene

BAKELITE COMPANY, 30 East 42nd St., New York 17, N. Y.
A Division of Union Carbide and Carbon Corporation UCC

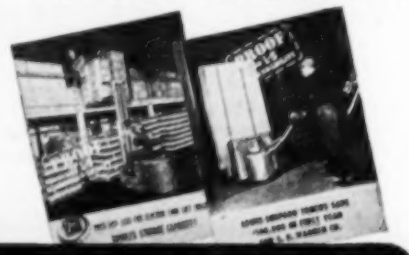
If you write maker identify as IEN - 8115

WANT PROOF?

. . . that Lewis-Shepard Trucks can save you money.

Then, write for these "Proof Folders" that show how companies in many industries are saving with Lewis-Shepard Electric Trucks. You're invited to inspect this proof . . . draw your own conclusions.

The "Proof Folders" include facts, figures, and familiar company names. Every word is a direct quotation or approved by the company concerned. They are the true experiences of both large and small users, told in a way that's interesting and informative. Write for these "Proof Folders" today!



MULTIPLY MANPOWER LEWIS-SHEPARD

LEWIS-SHEPARD

The MASTER Line

1033-7 WALNUT ST., WATERTOWN 72, MASS.

Nationwide Service—See "Trucks, Industrial" in your Yellow Phone Book

If you write maker identify as IEN - 8116

New Hunter Industrial Fan

POWERFUL, LOW-COST VENTILATION

FEATURES:

- Streamlined orifice for efficient air entrance
- Aluminum alloy blades—non-rusting, non-crystallizing, non-overloading
- "Gull Wing Design" airfoil blades for strength and uniform pressure
- Effective up to ½ in. static pressure
- Heavy continuous-duty motor
- Permanently lubricated and sealed for life
- Direct-drive for reduced maintenance costs
- Automatic shutters to fit all fan sizes

Hunter

CLIP AND MAIL NOW FOR COMPLETE DATA

Hunter Fan & Ventilating Company
375 S. Front St., Memphis 2, Tenn.
Send complete information on Hunter Industrial Fan to:

Name_____

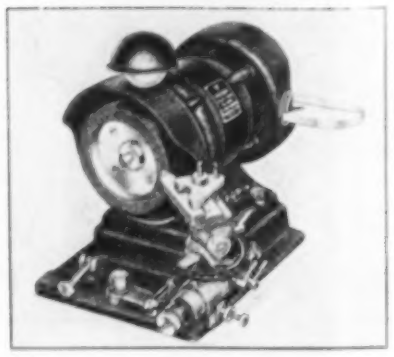
Address_____

*For specific recommendations, advise us of your ventilation problem.

If you write maker identify as IEN - 8118

GRINDING . . Precision machine for carbide, high speed, Stellite tools

Source: THOMAS PROSSER & SON
65 South St., New York 5, N. Y.



Coolant pump is separate

Diamond wheels, 6 in. in diameter, or vitrified wheels, either 6 or 7 in., can be employed interchangeably on this new Model-AP single-point tool grinder. The machine positions the work exactly for swing across the entire wheel face to eliminate scoring and grooving wheel. Feed increments are indicated in thousandths.

One side of the machine mounts a quick acting index table on which tools are supported for free hand roughing on a vitrified wheel. A diamond wheel can be used also on this side. The other side mounts the tool positioning and swing mechanism for the finish operation. Accessories are available to grind radii, chip breakers, drills. Bench and floor assemblies are subject to specification for either dry or wet operation. List prices range from about $275 to $547.

If you write maker identify as IEN - 8119

SAWING . . Band saw machine to cut non-ferrous metal plate stock

Source: WILLIAM LAIDLAW INC.
99-103 Winter Ave., Belmont, N. Y.

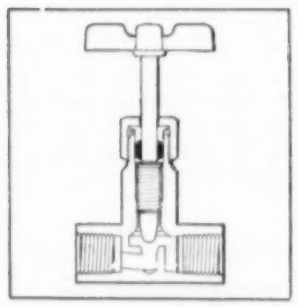
Please note our error

We call your attention to an error in our description, IEN-6569-53, of the company's new machine in which we quoted width capacity at 15 inches. We should have said that height capacity is 15 inches. We also have new information that the width capacity is adjustable between 29½ and 48 inches.

If you write maker identify as IEN - 8120

VALVE . . Needle design ⅛ to 1 in., pressure to 10,000 pounds

Source: MARSH INSTRUMENT CO.
3503 Howard St., Skokie, Ill.



Ask for Catalog NV-1

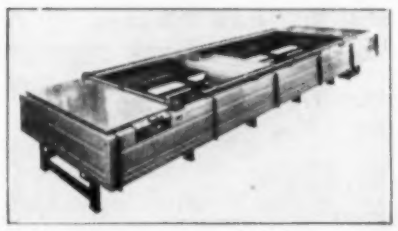
Carbon steel bar stock, in Conoweld welded assembly, is employed for the body and stem guide of this new Type-1900 needle valve. The stem is made of stainless steel. It is sealed by Marpak molded packing. The body, packing gland and nut are zinc plated. Fine threads on the stem permit close throttling adjustment between open and shut-off. Patterns available include the globe design shown and a second globe unit with one male and one female end connection. There is also an angle pattern in the same two connection arrangements.

The valve will handle water, oil or gas. The globe pattern illustrated lists at $5.05 to $20.80 for its six available sizes. Face-to-face dimensions are about 2 to 4 inches. The body section measures ⅞ to 2-in. square.

If you write maker identify as IEN - 8121

PRINTING . . Photocopy machine to make prints to 8 by 21 feet

Source: CHARLES BRUNING CO.
4702 Montrose Ave., Chicago 41, Ill.



Accurate reproduction

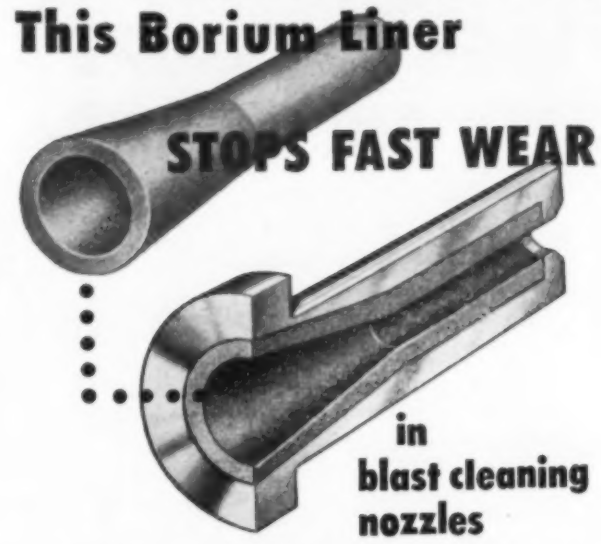
Reproductions can be made of drawn parts on glass cloth, sheet metal, plate steel, for subsequent use in manufacture of templates and accurate structural parts by means of this new traveling-light vacuum frame. The machine is self-contained except for the light transformers. It will expose all light sensitive materials and is equipped with a variable speed light source. Operations are performed without manipulation of the frame itself.

The light source is one or more quartz mercury vapor arc lamps. Drive is by an electronically controlled variable-speed dc. motor. Printing contact is established between a vacuum blanket and a plate glass with air exhausted from the space under the blanket by a positive displacement rotary type pump. It will establish contact pressure of about 14 lb. per square inch.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8122

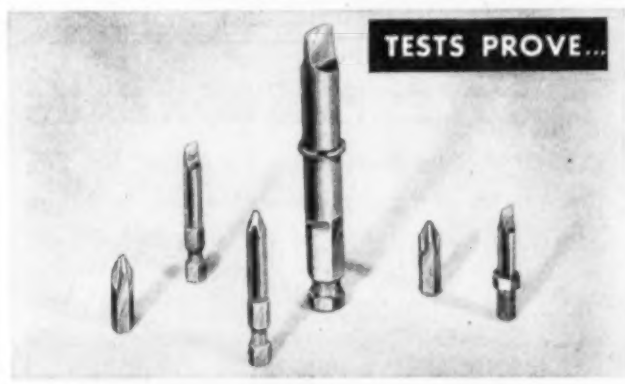
This Borium Liner STOPS FAST WEAR in blast cleaning nozzles



Ever hear of BORIUM? It's a man-made metal with diamond-like wear resistance! Used in blast cleaning nozzles, costly wear and fast cut-outs are forgotten. Lasts hundreds of times longer than ordinary cast iron nozzles when cleaning with sand and other common abrasives . . . Saves compressed air, maintains high velocity, keeps a close, tight pattern. You can buy BORIUM NOZZLES in standard types and sizes . . . or we'll furnish special BORIUM Nozzles or Borium Liners made to your specifications. Write for descriptive folder and prices.

STOODY COMPANY
11930 EAST SLAUSON AVENUE, WHITTIER, CALIFORNIA

If you write maker identify as IEN - 8123



HOMMEL ALL METAL BITS DRIVE MORE SCREWS!

Close tolerance machining of finest, toughest shock-and-abrasion resistant tool steel is the reason — the reason Hommel All Metal power screwdriver bits outperform, outlast all others! Tests by major aircraft and automotive manufacturers actually *prove* Hommel bits last longer, cut production costs. All types and sizes are now in the Hommel line — hex drive, threaded or "Stubbies" for slotted, Phillips or Frearson (Reed and Prince) screws. Write for new catalog.

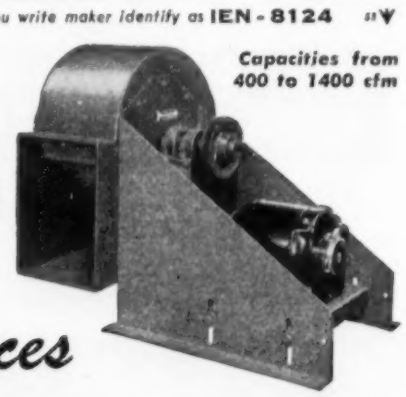
HOMMEL ALL METAL BITS

"Quite a Bit—Lasts Quite a Bit Longer"

All Metal Bit Company, 727 Penn Avenue, Pittsburgh 21, Pa.

If you write maker identify as IEN - 8124

Capacities from 400 to 1400 cfm



nyb *Announces*

TWO NEW BELTED JUNIOR FANS No. 76 and No. 91

Developed to meet popular demand for a small, adjustable speed V-belt fan, which is quiet in operation and where fan speed can be adjusted in the field.

CAST ALUMINUM SLOW SPEED WHEEL is ideal to meet requirements of small ventilating problems where quiet operation is demanded and precise quantities of air are to be handled. In order to use the Slow Speed wheel for this service, belt driven units are necessary.

RUGGED CONSTRUCTION • Realizing that quiet fan operation requires sturdy construction, the same type all-welded steel housing is used in the larger *nyb* ventilating fans.

Write for Bulletin 530

nyb THE NEW YORK BLOWER COMPANY
SALES OFFICES • 3181 SOUTH SHIELDS AVENUE • CHICAGO 16
FACTORY, LAPORTE, INDIANA

If you write maker identify as IEN - 8125

Check Temperatures
Instantly... Accurately with *Alnor* TYPE 1500 PORTABLE PYROMETER

Wherever temperature readings are required—on the production line, in the laboratory or in the field—this sturdy precision instrument can bring you instant, accurate results.

Here's Why

It's Fast . . . in operation and quickly read. Precision movement designed to laboratory standards. Direct reading scale face is easily understood—no slide wires or conversion tables necessary.

It's Accurate . . . consistently to within ¾ of one percent under almost all variable conditions. Sturdy, protective case assures continued accuracy in toughest portable service. Ten scale ranges available, from 0-400° to 0-3000°F. Equivalent Centigrade scales available at no extra cost.

It's Portable . . . compact size, 6½"x6"x3", and light weight make this pyrometer highly portable and easy to use anywhere. Write today for complete details and prices. Illinois Testing Laboratories, Inc., Room 517, 420 N. La Salle Street, Chicago 10, Illinois.

Send for Bulletin on 1500 Pyrometer.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

If you write maker identify as IEN - 8126

Now Available
STOCK SPROCKETS AND STANDARD DIAMOND ROLLER CHAINS

from Diamond Distributors Everywhere

Diamond Taper Lock Sprockets and Bushings are available in all popular shaft diameters. Your Diamond Distributor gives you "off-the-shelf, over-the-counter" service from his stock of Taper Lock Bushing sizes.

In the smaller sizes, solid Diamond Sprockets with fixed stock bores for all popular shaft sizes are available complete with Keyways and Setscrews.

- A complete, balanced, attractively priced stock of Sprockets and standard Diamond Roller Chain is now available for fast "off-the-shelf, over-the-counter" service.
- Taper Lock Sprockets and Bushings in the larger sizes are available with a full assortment of finished bores for all popular shaft sizes.

Now the correct Sprockets and high quality Diamond Roller Chains for new applications and replacements are as near as your telephone.

Your Diamond Distributor can furnish you Diamond Sprockets, Roller Chain and complete drives to meet emergency and normal service demands for all standard drive ratios and popular horsepowers—*from stock!*

See the classified section of your local telephone directory for the number and address of your nearest Diamond distributor.

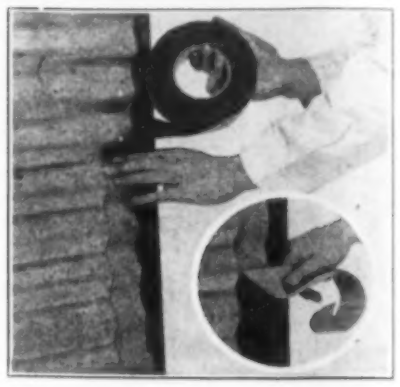
DIAMOND CHAIN COMPANY, Inc.
Where High Quality is Traditional
Dept. 465, 402 Kentucky Avenue, Indianapolis 7, Ind.
Offices and Distributors in All Principal Cities

DIAMOND ROLLER CHAINS

If you write maker identify as IEN - 8128

SEALING . . Synthetic rubber tape, cloth backed for use in gasketing

Source: MINNESOTA MINING & MFG. CO.
423 Piquette Ave., Detroit 2, Mich.



Place and strip cloth

Seven widths range from ¼ to 2 in. in this new cloth backed Type EC-1202 rubber sealing tape. It is applied in a seam prior to assembly, as in lap joining metal sheets. The cloth backing is stripped and the assembly is completed by riveting or bolting. The rubber fills the joint, provides a weather proof water tight seal. Two thicknesses are 1/32 and 1/16 inch. Length is 100 feet or 200 feet.

If you write maker identify as IEN - 8129

LUBRICATING . . Soluble oil for machining and grinding operations

Source: MICHIGAN TOOL CO.
7169-73 E. McNichols Road, Detroit 12, Mich.

Initially for company's own use

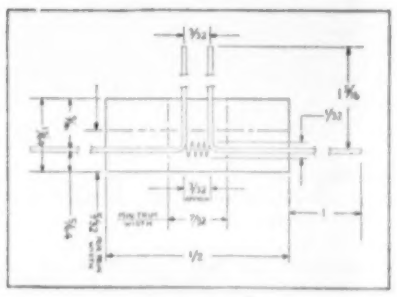
Shear-Speed is a new water soluble oil. It is supplied in concentrated form to be used in dilutions of 10 to 80 to 1 depending upon a given metal working operation. A ratio of 20 to 1 is employed on normal cuts, 40 to 1 when the cutting edges are not in continuous contact with the work, as in gear hobbing and milling, 80 to 1 for most grinding operations.

The oil penetrates around cutting edges due to its low surface tension and wetting properties. It minimizes wheel loading on grinding operations where it also acts as a heat dissipator to minimize work distortion. It inhibits corrosion and is non-corrosive to non-ferrous metals such as aluminum, brass, copper. It deposits a microscopic film that protects against corrosion after machining. Its low viscosity assists in separating foreign matter for recirculation. It will not become rancid or develop objectionable odor after long periods of use. It is unharmed when subjected to sub-freezing temperatures and remains stable in storage.

If you write maker identify as IEN - 8130

GAGE . . Resistance wire unit for strain measurements to 10 per cent

Source: BALDWIN-LIMA-HAMILTON CORP.
Paschall Post Office, Philadelphia 42, Pa.



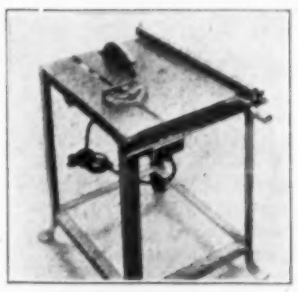
Half mil grid wire

Active length is 1/32 in. for this new Type AB-32 strain gage Type SR-4. The gaging element is mounted on a Bakelite base and is a wrap-around type of cupro nickel wire. The unit is applied on a surface, where strain is to be measured, by means of phenol-resin cement. Nominal resistance is 120 ohms. Average gage factor is 1.4. Two pairs of leads are provided, either of which can be used. The unused pair can be cut off to trim width.

If you write maker identify as IEN - 8131

WOODWORKING . . Steel table mounts company's portable electric saw

Source: PORTER-CABLE MACHINE CO.
20 Exchange St., Syracuse 8, N. Y.



$39.50 without saw

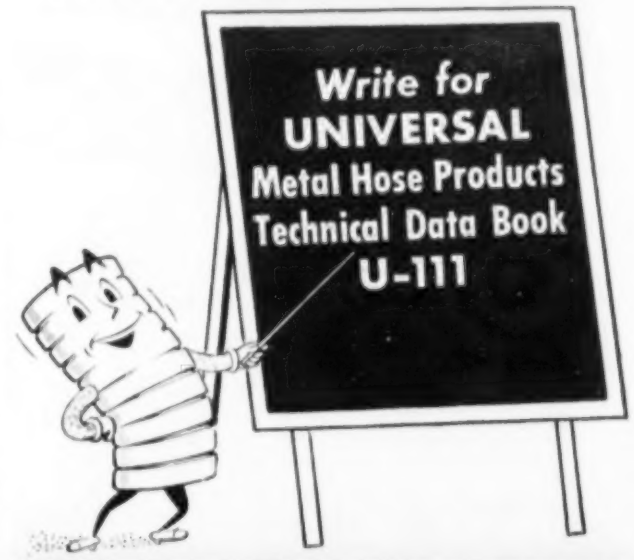
New combination of one of the company's portable electric saws and a new 42-lb. steel frame makes a table type saw that can be carried to various locations and set up for operation. The table will take any of seven of the Porter Cable saws in inverted position on the underside of the top with the blade operating in a slot. Depth and angle of cut are adjusted by controls built into the saw itself for the purpose.

Two knurled knobs hold a rip fence on the table. The calibrated angle gage rides in a slot parallel to the fence. Top dimensions are 18 by 21 inches. The steel table top is zinc plated. Steel braces on the lower legs add rigidity and provide support for a shelf built by the user.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8132

QUICK DELIVERIES ON
UNIVERSAL *Flexible* METAL HOSE

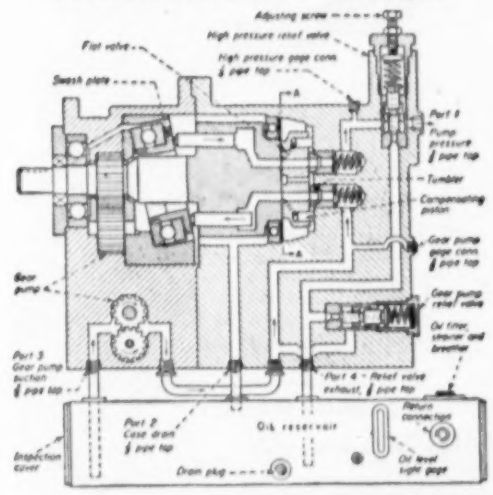


UNIVERSAL METAL HOSE CO.
2131 South Kedzie Avenue Chicago 23, Ill.

If you write maker identify as IEN - 8133

HEAVY DUTY HYDRAULIC POWER PUMPS

Pressures to 3000 & 5000 psi



The Oilgear Company announces three new "Fluid Power" heavy-duty constant delivery axial piston pumps. Similar components have been tested and proven in more than 100,000 installations without a single failure on record. Features of these fluid power generators are: patented balanced small flat valves with controlled oil film between working surfaces; patented small one piece rolling pistons; patented quiet reverse flow relief valves; 100% supercharge that minimizes oil compression, prevents air entry and assures quieter operation. These units in pressures up to 3000 and 5000 psi are especially suited to heavy duty pushing, pulling, lifting, lowering and maintaining high static loads on large clamping rams; for use in the iron, steel, metal working, plastic, automotive, rubber, printing, lumber and textile industries. For illustrated descriptive and application data, write for Bulletin 46601. THE OILGEAR COMPANY, Dept. A, 1567 West Pierce Street, Milwaukee 4, Wisconsin.

If you write maker identify as IEN - 8134

You get ALL these features when you buy PET DRILLS!

If you want the best, take an extra look at the PET Superduty Drill above! Here's a continuous-duty drill—built to *work* right and *handle* right.

And, the price is right, too! All features shown are *standard* in PET Superduty Drills—at a *standard drill price!* Complete line of 54 ¼", ⅜" and ½" models gives you wide selection—in pistol or saw-type grip. Use coupon below to get complete facts!

PORTABLE ELECTRIC TOOLS, INC., 320 W. 83rd St., Dept. IE-73, Chicago
In Canada: Portable Electric Tools, Ltd., 452 Birchmount Rd., Toronto

MAIL COUPON FOR FREE BULLETIN
Please send me free PET Superduty Catalog and name of nearest distributor.
Name _____ *Title* _____
Company _____
Address _____
City _____ *State* _____

If you write maker identify as IEN - 8135

You Get the BEST!

in
METAL
STAMPINGS
WASHERS
PARTS
ASSEMBLY
WORK
from

SEND TODAY FOR THIS VALUABLE 16-PAGE BOOKLET

Contains complete data on:

TENSION WASHERS
FRICTION WASHERS
FINISHING WASHERS
WIRE TERMINALS
BLANKING DIES
DISHED BLANKS
GENERAL STAMPINGS
PROGRESSIVE AND COMPOUND DIES
STANDARD GAUGES

We have a press capacity up to 150 tons—depth of draw to 4 in.

THE QUADRIGA MANUFACTURING CO.

215A West Grand Avenue • Chicago 10, Illinois

If you write maker identify as IEN - 8136

TORCH-O-MATIC

FOR FASTER, EASIER SOLDERING
BRAZING—MELTING—

THE FULLY AUTOMATIC ON-OFF AIR-ACETYLENE GAS GUN

Instant, one-hand operation saves time, gas, and eliminates open flame hazards when not in use. Just pull the trigger and the air-acetylene gas lights instantly, release and it's out! As simple as all that, and **no "time-out" to light up and adjust.** The Torch-o-matic gas gun pays for itself many times over in savings and convenience. Three sizes of tubes and nozzles to take care of any job. Will fit your present equipment. Halide Leak Detector attachment locates the slightest refrigerant gas leak. Write for the details on how Torch-o-matic can speed your operations and cut down costs.

VELOCITY POWER TOOL COMPANY

201 North Braddock Avenue • Pittsburgh 8, Pa.

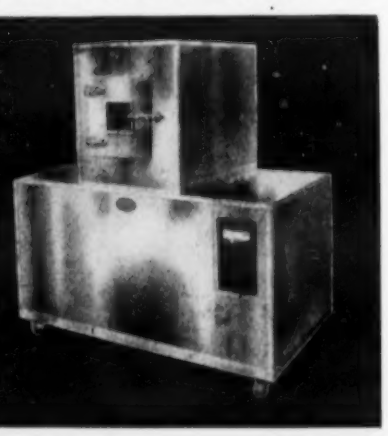
If you write maker identify as IEN - 8137

WEBBER

TRADE MARK REGISTERED

TEST CHAMBER

WITH
HIGH-TEMPERATURE,
LOW-TEMPERATURE
AND HUMIDITY



★ This Webber test unit, designed for production and experimental testing, has a temperature range from +250°F., to −100°F. The pull-down to −100°F., is achieved in 45 minutes, and can be cycled from −100°F., to +250°F., in 30 minutes. 95% relative humidity is provided at temperatures between 75°F., and 95°F. Vacuum equipment can be added to simulate high altitudes. The test chamber, provided with a moisture-proof light for illumination, is 4½ cubic feet, 20 inches high, 20 inches wide, 20 inches deep. High and low temperatures are governed by a temperature controller with scale range from −200°F., to +400°F., with a 3 degree control point differential, 1½ degrees plus and minus. The humidity is regulated by a wet and dry bulb controller. Unit size is 60" long, 45" wide, 74" high. Apertures in left side of cabinet provide for electrical cables to energize equipment being tested. Webber offers a complete line of test units for various applications.

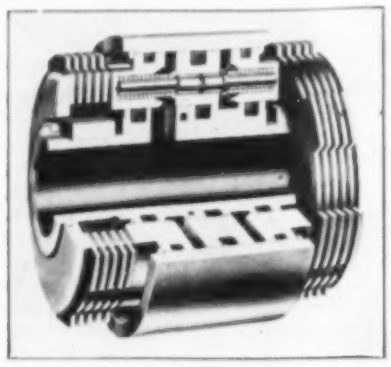
Write for more complete information

INDUSTRIAL FREEZER DIVISION
WEBBER MANUFACTURING COMPANY, INC
(Formerly Webber Appliance Co., Inc.)
2746 MADISON AVENUE - INDIANAPOLIS 1, INDIANA

If you write maker identify as IEN - 8138

DRIVE . . Multiple disc design, hydraulic operation, duplex, single

Source: TWIN DISC CLUTCH CO.
1401 Racine St., Racine, Wis.



Adjustment unnecessary

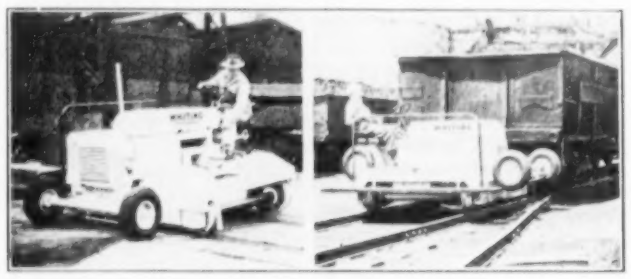
Model MOD, duplex, and Model MOS, single, are new designs in the company's line of hydraulically operated multiple disc friction clutches for machine use. Oil pressure enters through the shaft on which the clutch is mounted. It is controlled to flow, or to relieve, back of annular rings forming pistons in the duplex design shown in the illustration. Pressure alternately grips and releases the driving discs which are equipped with integral teeth as shown. Wear is taken up automatically by further movement of the pistons to a limiting point established by snap rings in the housing.

Sizes ranges from 3 to 7 in. in diameter, for Model MOD, with rating at 9 to 78 hp. Working torque ranges from 480 to 8,800 in. lb. based on maximum oil pressure of 150 pounds. This clutch will deliver 0.76 to 14.0 hp. per 100 rpm. The 3-in. unit is recommended for operation at speeds not greater than 6,000 rpm. The 7-in. size is limited to 2,800 rpm. Model MOS is available in similar sizes and capacities with maximum speeds at 2,500 down to 2,000 rpm.

If you write maker identify as IEN - 8139

TRUCK . . Engine driven tractor rides on road and on railroad track

Source: WHITING CORP.
15629 S. Lathrop Ave., Harvey, Ill.



Ask for Trackmobile Bulletin

Trackmobile Model 2TM is an improved design of the unit previously described IEN-119-51. It operates interchangeably on a roadway and a railroad track. In the latter case, it couples to railroad cars to push or pull them along the track for spotting and yard transfer. The comparatively small truck secures traction on the track by its hydraulic mechanism that raises its coupler to take part of the car weight. Tractive effort is 8,400 lb. at 1.5 mph. It is 1,300 lb. at 9 mph. Maximum road speed is 16 mph.

Track wheel base measures 67 in. with overall width at 118 in., when riding on the track with the road wheels lifted and retracted inward. Wheel base on the road is about 98 in. with overall road length at 120 in. and overall width at 85 inches. Gasoline-engine drive rates 55 hp. at 3,000 rpm.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8140

BARRETT MODEL EX...

New and Improved

PALLET LIFT-TRUCK

Here's the smart angle that helps you save expense of power truck use. Let the Barrett EX Pallet Truck handle short hauls, load spotting, general pallet movement—all at lower cost. Fork types for single or double-faced pallets; also platform types...2500, 4000, 6000 lbs. capacity. Hydraulic Lift—4". Frame widths—25" and 27". Investigate Barrett before you invest.

JUST OFF THE PRESS
New 100 page catalog on the complete Barrett line of material handling equipment. Write for copy.

BARRETT-CRAVENS COMPANY
4641 S. Western Blvd., Chicago 9, Illinois
Representatives in all Principal Cities
Canadian Licensee: S. A. Armstrong, Ltd., Toronto, Canada

BARRETT

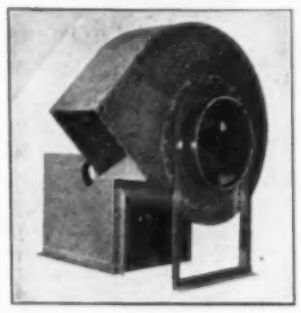
One man does more than 3 or 4 . . . with a Barrett

If you write maker identify as IEN - 8141

SELECT

ROBINSON

TYPE AE EXHAUSTERS



To exactly meet your demands for air handling equipment in . . .

Dust Exhaust Systems
Fume Exhaust Systems
Heat Treating Furnaces
Annealing Ovens, etc.

The AE Exhausters are built in a wide range of sizes and arrangements. They are regularly made from heavy gauge steel plate, welded throughout. They are also built from heat resisting alloys for high temperature applications, or acid resisting alloys for handling corrosive fumes. Ask for Bulletin No. 5100 — It contains capacity and dimension tables.

ROBINSON VENTILATING COMPANY

Manufacturers of Fans and Ventilating Machinery for over fifty years.

Zelienople, Pennsylvania (Pittsburgh District)

If you write maker identify as IEN - 8142

Leaking Air

is an expensive luxury

If you can't afford it, HILLS-McCANNA *Saunders Patent* **diaphragm valves will put an end to it!**

WRITE FOR LITERATURE

HILLS-McCANNA
Saunders Patent
diaphragm valves

HILLS-McCANNA COMPANY • 2347 Nelson Ave., Chicago 18, Ill.

If you write maker identify as IEN - 8143

SPRING-CORK STICKS!

Spring-Cork is the superior pressure-sensitive tape that *really* sticks. It's made of synthetic rubber, ground cork, and a powerful Holland-backed adhesive. There's nothing better for sealing out dust and fumes, absorbing shock, non-skid surfacing, etc. Assembly work goes quicker and easier when you use tough and versatile Spring-Cork.

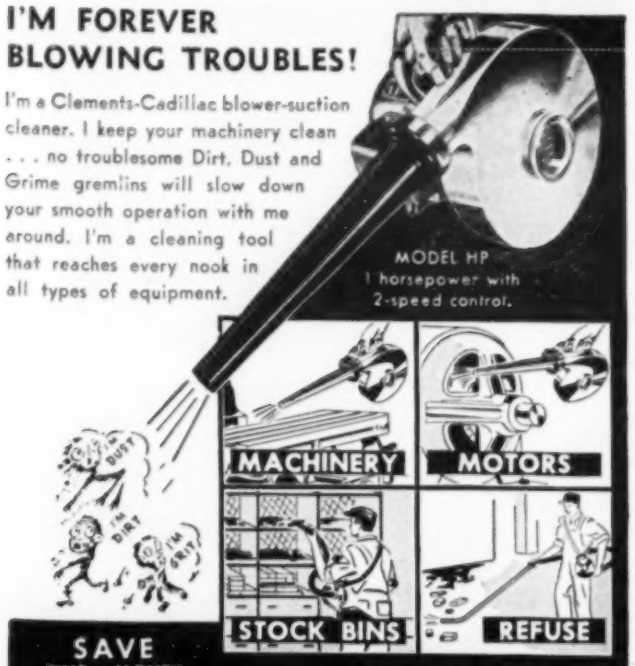
Four thicknesses: 1/32", 1/16", 3/32", 1/8". Widths: 3/16" to 36". Available as a continuous tape, or as short lengths on continuous Holland-cloth backing. Makes excellent gaskets. Write for samples, full facts.

SPRING PACKING CORPORATION
332 South Michigan Ave., Chicago 4, Ill.

If you write maker identify as **IEN - 8144**

I'M FOREVER BLOWING TROUBLES!

I'm a Clements-Cadillac blower-suction cleaner. I keep your machinery clean . . . no troublesome Dirt, Dust and Grime gremlins will slow down your smooth operation with me around. I'm a cleaning tool that reaches every nook in all types of equipment.



SAVE TIME • MONEY PREVENT DAMAGE TO MACHINERY WITH THE . . .

Made in 5 models with attachments for every cleaning job.

PORTABLE COMBINATION BLOWER-SUCTION CLEANER

CLEMENTS CADILLAC

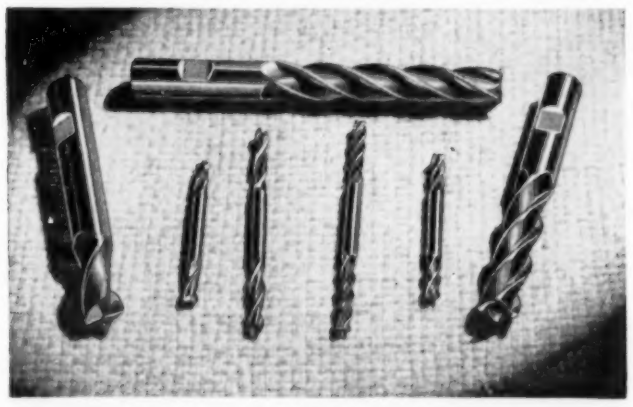
CLEMENTS MFG. CO.
6620 S. NARRAGANSETT AVE. CHICAGO 38, ILL.

ASK YOUR MILL SUPPLY DEALER OR WRITE US FOR DATA

If you write maker identify as **IEN - 8145**

ANNOUNCING

A COMPLETE LINE of END MILLS by GO & GO



With the addition of seven styles, including long, extra-long and small diameters; and three styles of heavy duty end mills with 2" shanks, your GO & GO Representative can now provide off-the-shelf service to meet ALL your end mill needs. Additional sizes have been included throughout the full series to provide a complete range, as standardized by the Metal Cutting Tool Institute. The famous GO & GO quality is built into these mills. An ideal combination of high helix and curved undercut on the tooth face provides maximum effective shear plus long tool life. Write for new, convenient catalog covering all standard end mills and milling cutters. ***SEND FOR CATALOG.***

GODDARD & GODDARD COMPANY
MILLING CUTTER ENGINEERS AND MANUFACTURERS
P. O. Box 68, Brightmoor Station
DETROIT 23, MICHIGAN

Please send new, convenient GO & GO catalog.

Name _____ Title _____

Firm _____

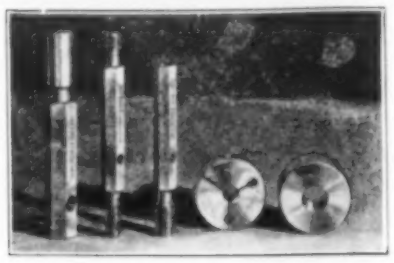
Address _____

City _____ Zone ____ State _____

If you write maker identify as **IEN - 8147**

GAGES . . Plug and ring units, Electrolized against wear and friction

Source: TAFT-PEIRCE MFG. CO.
32 Mechanic Ave., Woonsocket, R. I.



Electrolized

Electrolizing designates a surface treatment that is now available with the company's lines of plug and ring gages and its CompAIRator air gage members. The treatment imparts a coating that measures 0.000025 in. in thickness. This coating is much harder than hardened tool steel. It results in accurate long gaging life. It also is tough, resistant to corrosion and minimizes friction.

If you write maker identify as **IEN - 8148**

MAGNIFYING . . Illuminated fixture with 4½ in. lens and Circline lamp

Source: STRAT-O-SEAL MFG. CO.
3037-41 W. Fullerton Ave., Chicago 47, Ill.

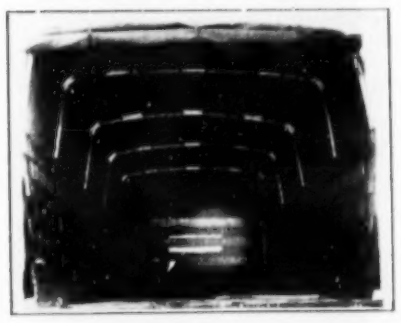
Strain free vision

Strat-O-Lite trade names a new illuminated magnifying fixture that mounts on a bench and provides for flexible positioning of the lens and light frame by means of a ball joint and length of flexible support tube. The housing is black and measures 9 in. in overall diameter. List price is about $30.

If you write maker identify as **IEN - 8149**

TRUCK . . Fabric aluminum top designed to enclose stake type bodies

Source: C. K. TURK CORP.
1120 Mishawaka Ave., South Bend 15, Ind.



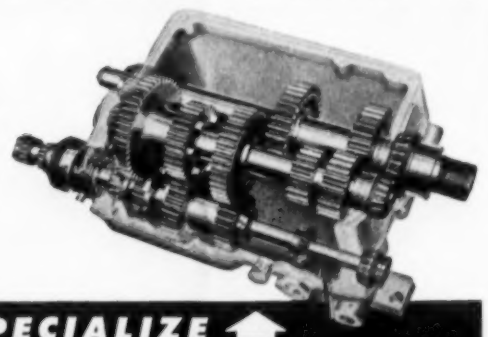
Applies quickly

Aluminum bows and longitudinal slats assemble with metal slip holders on the stakes in a standard stake truck body in this new Caravan top. The bows are covered with mildew resistant duck. Slide fasteners at the rear apply or remove the rear duck curtain. Weight of the complete assembly, for a 12-ft. body 6 ft. in height, is 125 lb. based on No. 10 duck. List price is $265.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 8150**

This special gear unit was designed and manufactured per customers requirements.



SPECIALIZE
GEARS OHIO REDUCERS
STANDARDIZE

PROTECT YOUR PRODUCT — specialize with OHIO GEAR special gears and special speed reducers engineered to your specifications and dimensions.

REDUCE MAINTENANCE AND MANUFACTURING COSTS — standardize with OHIO GEAR stock gears and stock speed reducers for years and years of dependable rugged trouble-free service.

NEW METHODS — modern machinery, sound engineering, approved and thoroughly tested materials enable our Distributors and Representatives to give you prompt, intelligent and helpful attention. Call him or write direct.

Exploded view shows sturdy construction of catalog number DHS Series Reducers.

ESTABLISHED 1915

OHIO GEARS

THE OHIO GEAR COMPANY
1345 E. 179 St., Cleveland 10, O.

If you write maker identify as **IEN - 8151**

Get this handy table on MAXIMUM ALLOWABLE STRESS VALUES for B&W Seamless & Welded Carbon, Alloy, and Stainless Steel Tubing and Pipe

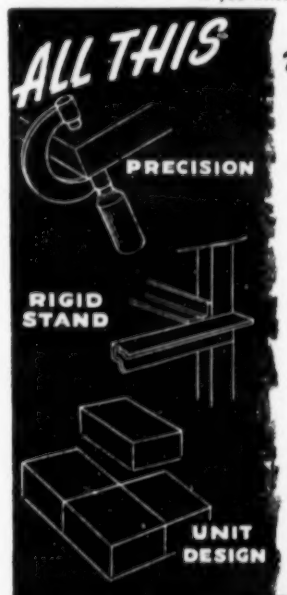
Factual technical data at your fingertips, including formula for determining maximum allowable working pressures.

Write for Technical Data Card 154 TA-1770 (LA)

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
Beaver Falls, Pa. • Seamless Tubing; Welded Stainless Steel Tubing
Alliance, Ohio • Welded Carbon Steel Tubing

If you write maker identify as **IEN - 8152**

ALL THIS AND MORE WITH CHALLENGE LAYOUT SURFACE PLATES



Built of fine-grade special analysis semi-steel . . . these plates provide a smooth accurate surface for layout, inspection or assembly work. Six inches thick, 16 standard sizes — 8" thickness and other sizes to order; also special plates with "Tee-Slots" or grooving, scoring, machining as specified. Arc-welded, all-steel stand is equipped with lock-leveling screws. Plates can be grooved and keyed so that two or more may be assembled into one complete unit, e.g., four 54 x 144" plates into one 108 x 288" unit. Write for data and prices at once!

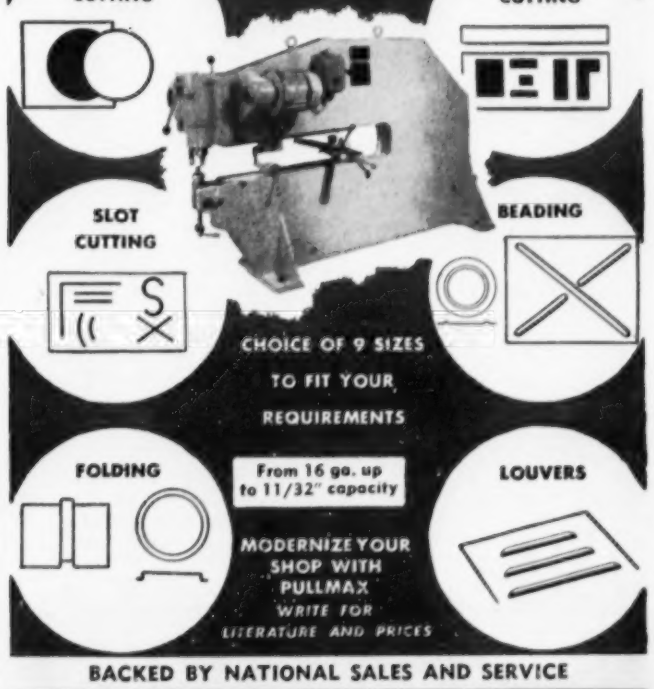
Challenge

THE CHALLENGE MACHINERY CO.
GRAND HAVEN, MICHIGAN
Send for Illustrated Catalog

If you write maker identify as **IEN - 8153**

PULLMAX Does all These Operations

SAVE TIME, LABOR & EXPENSIVE DIES

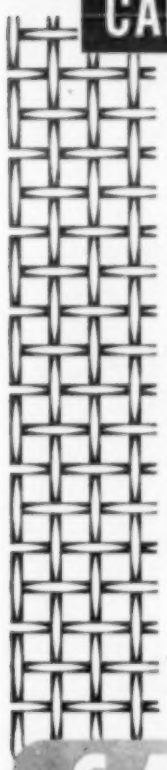


BACKED BY NATIONAL SALES AND SERVICE

AMERICAN PULLMAX COMPANY, INC.
2459 NORTH SHEFFIELD AVENUE • CHICAGO 14, ILLINOIS

If you write maker identify as **IEN - 8154**

CAL-WIC WIRE CLOTH



THE RIGHT WEAVE

• • • for every industrial requirement including screening, filtering, grading, cleaning and numerous other types of processing.

THE RIGHT WEIGHT

• • • precision-fabricated for long-lasting dependability and economy.

THE RIGHT METAL

• • • for highest resistance to chemical action, moisture, corrosion, abrasion and extremes of temperature.

For additional information write or phone our nearest sales office.

THE COLORADO FUEL & IRON CORPORATION – Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION – Oakland, California
WICKWIRE SPENCER STEEL DIVISION – Clinton, Massachusetts

CAL-WIC CFI
INDUSTRIAL SCREENS
THE COLORADO FUEL AND IRON CORPORATION

If you write maker identify as **IEN - 8155**

Write for New 16 Page Catalog

ONE MILLION
RELAYS

Over 1000 Types
24 HOUR DELIVERY FROM OUR STOCK!

- Standard, Respected Brands
- Brand New, Boxed
- Inspected and Guaranteed
- Priced to Your Advantage

Our relay stock, which is the world's largest, has been carefully built up over a period of several years. Nothing but first run, professionally selected items are carried.

Send us your relay requirements. You will receive immediate quotations.

samples on request. *Phone, Wire or Write*

Relay Sales
SEeley 8-4146
4721 W MADISON STREET
DEPT. NO. 9 CHICAGO 44, ILLINOIS

If you write maker identify as **IEN - 8156**

INDUSTRIAL RUBBER PARTS

produced by the ARco form-dip process

CONTROL BOOTS • MOISTURE AND DUST SHIELDS • ELECTRICAL SHROUDS AND COVERS • BELLOWS • OTHER SHAPES IN EXPERIMENTAL OR PRODUCTION QUANTITIES

• Economical, uniform ARco form-dipped rubber parts . . . designed in difficult shapes . . . made to exacting specifications . . . *can be produced to meet unusually short delivery schedules!*

Rubber parts made by ARco form-dipping are preferred for quality and durability in the electrical, machine tool, automotive, aircraft and other numerous fields. You, too, can benefit with these superior ARco products.

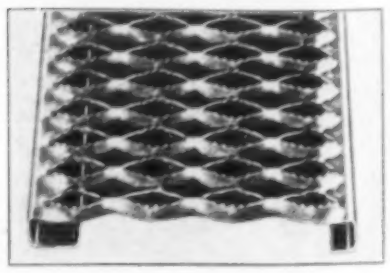
WRITE TODAY! Get this valuable information on ARco Rubber Parts, rubber covered metal parts and equipment.

AUTOMOTIVE RUBBER CO., INC.
8605 EPWORTH BLVD. DETROIT 4, MICHIGAN
•
ARCO RUBBER PROCESSORS
4033 HOMESTEAD ROAD • HOUSTON, TEXAS
ANYTHING CAN BE COVERED WITH RUBBER — BY ARco
MANUFACTURERS • DESIGNERS • ENGINEERS

If you write maker identify as **IEN - 8157**

FLOORS . . Single piece grating made by forming steel or aluminum

Source: GLOBE CO.
4002 S. Princeton Ave., Chicago 9, Ill.



Made from single sheet

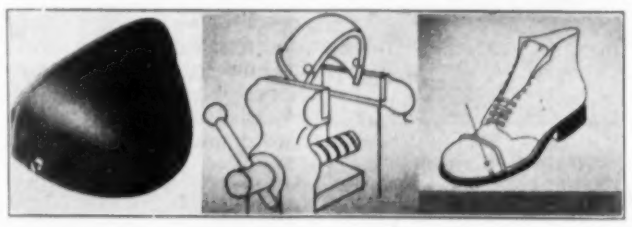
Two new widths, 4¾ in. and 19 in., have been added to the Grip-Strut grating. They supplement the three widths, 7 in., 9½ in. and 11¾ in., previously described IEN-2880-52. The grating is made by slitting the sheet metal to produce a toothed top outline with alternate openings that face downward. The forming action spreads the slits and openings into a diamond pattern. It also forms flanges downward for structural strength and rigidity. The two edges are formed into channels as shown in the illustration to complete the unit.

Sheet gage ranges from No. 12 to No. 16. Standard length is 10 feet. Typical applications include railroad running boards, catwalks, work platforms, steps, wherever skid-proof footing is an important factor in equipment or buildings.

If you write maker identify as **IEN - 8158**

PROTECTING . . Steel clip applies over toe of an ordinary shoe

Source: STANDARD SAFETY EQUIPMENT CO.
226 W. Ontario St., Chicago 10, Ill.



To make your shoes safe

This new Toe Clip is designed to apply over the toes of ordinary shoes for workers who do not desire to purchase safety shoes but who require the toe protection. The clip can be compressed or stretched to fit a given foot size. It is nailed in place through two holes provided for this purpose. It carries a reinforced bead across the top and down both sides to the bottom with a mounting flange at the bottom. Weight is negligible. The clip also can be supplied with a spring and wire mounting for intermittent wear.

Identify as **IEN - 8159**

Industrial television has reached sufficiently large proportions and enough industrial organizations are now employing it for a multitude of purposes so adequate prompt service is a factor. You can secure such service from RCA Service Co., 1941 Front & Cooper St., Camden 2, N. J., or from any of its branches in the major industrial centers. You get regular periodic inspections and emergency service by electronic specialists, plus parts replacement, for a fixed fee.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 8160**

Aeroquip

HOSE AND FITTINGS

matched for guaranteed performance

A small supply of Aeroquip Bulk Hose and Fittings assures quick hose line replacements at all times. Aeroquip Fittings are detachable and may be used again and again.

CUT INVENTORY! DOWNTIME! COSTS!

AEROQUIP CORPORATION, JACKSON, MICHIGAN

FLEXIBLE HOSE LINES • DETACHABLE, REUSABLE FITTINGS • SELF-SEALING COUPLINGS • BREAKAWAY COUPLINGS • HYDRAULISCOPE
AEROQUIP PRODUCTS ARE FULLY PROTECTED BY PATENTS IN U.S.A. AND ABROAD

If you write maker identify as **IEN - 8161**

Lindberg Air or Hydraulic Cylinders provide dependable, low cost power for lifting, forcing, pulling, pressing, pushing and clamping. Ask for bulletin No. 701, "Lindberg Hydraulic Cylinders" . . or No. 731, "Lindberg Air Cylinders."

LINDBERG* CYLINDERS *AIR HYDRAULIC

Lindberg Engineering Company, 2481 West Hubbard St., Chicago 12, Ill.

If you write maker identify as **IEN - 8162**

NEW SWIRLING TURBULENCE

gives *high-speed cleaning* in

GRAY-MILLS Wirl AGITOR PARTS CLEANING UNITS

Save parts cleaning time this modern, efficient, economical way . . .

GRAYMILLS WIRL-AGITOR is ideal for removing cutting oils and dirt from machined parts and castings . . . for removing drawing compounds and lubricants from assemblies which are to be serviced . . . for cleaning parts *before* vapor degreasing. No heating required. Save expensive chlorinated solvents. Use WIRL-AGITOR with inexpensive cold solvent.

GRAYMILLS equipment offers savings that make it positively wasteful to continue to use old fashioned methods of parts cleaning.

WRITE FOR NEW CATALOG TODAY!

Made in sizes ranging from W-13A with 5-gal. tank to sizes large enough for engine blocks and large castings. W-58 (300 gal. tank)
Prices start at $139.50 for complete unit.
Get the complete story of modern parts cleaning as used by large concerns everywhere.

GRAYMILLS CORPORATION
3709 North Lincoln Avenue, Chicago 13, Illinois
West Coast Office and Warehouse, 4511 Melrose Avenue, Los Angeles

If you write maker identify as **IEN - 8163**

Hanna *Fluid Power* Cylinders give you

POWER for production

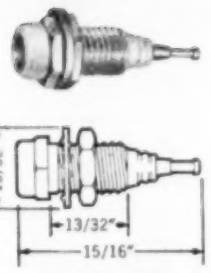
Hanna Pneumatic and Hydraulic Cylinder power helps cut production costs and increases production in your plant by replacing manual operations with perfectly controlled power. "Cylinder Power in Action" shows you 27 different ways you can put Hanna Cylinders to work for you. Write for free Bulletin 255 TODAY!

Hanna Engineering Works
HYDRAULIC AND PNEUMATIC EQUIPMENT CYLINDERS VALVES RIVETERS
1748 ELSTON AVENUE • CHICAGO 22, ILLINOIS

If you write maker identify as IEN-8164

For hard service, dependability ...it's the

CANNON test point jack



Cannon 45-E Series Test Point Jacks are high quality, precision-made receptacles designed for general laboratory and electronic equipment as single lead high voltage disconnects, stand-offs, and leads from important junctions in electronic equipment. Only 15/16" in length by 13/32" in diameter across the lock washer, these tiny jacks have a threaded brass barrel giving sturdy support to the Nylon insulation. They mate with standard RTMA phone tips.

The threaded body and locknuts are nickel plated brass. Contacts are heat treated beryllium copper, silver plated, and insulated with Nylon FM10001 in 7 colors for identification. Flashover values 4,000 v average, 60 cycle ac.

For engineering data, write for Test Point Jack Bulletin TJ-1.

CANNON ELECTRIC Since 1915

CANNON ELECTRIC COMPANY, LOS ANGELES 31, CALIFORNIA

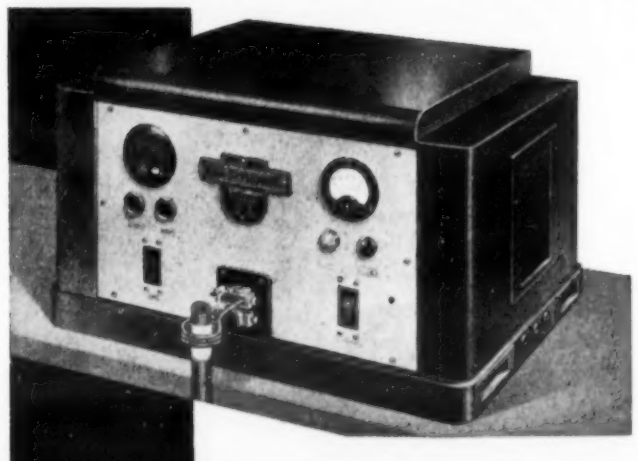
Factories in Los Angeles, Toronto, New Haven. Representatives in principal cities. Address inquiries to Cannon Electric Co., Dept. G-112, Los Angeles 31, Calif.

If you write maker identify as IEN-8165

MODEL 50 *Versatile*

Low Cost ELECTRONIC

THER-MONIC INDUCTION HEATING UNIT



BRAZING

SOLDERING

HARDENING

ANNEALING

MELTING

FOR THE PRODUCTION LINE, TOOL ROOM or LABORATORY!

THER-MONIC, pioneer in the field of Induction Heating, offers the only completely contained, electronic generator for continuous production runs with either automatic or hand-feeds, or on small production runs which involve frequent work change-overs. Hundreds already in use; all are acclaimed by owners and operators.

Delivers ready for use—operates on 110V., 60 cycles. Rated in accordance with NEMA standards. Built & certified in accordance with F.C.C. regulations. Unit is similar to our larger sized, high production models. Furnished complete with timer and output transformer. Designed for safe, low voltage work coils.

THER-MONIC INDUCTION HEATING CORP NEW YORK

$985. F.O.B. Factory

Fully guaranteed. Service and sales in principal cities. Write for literature.

Generators available up to 75 KW output.

INDUCTION HEATING CORPORATION

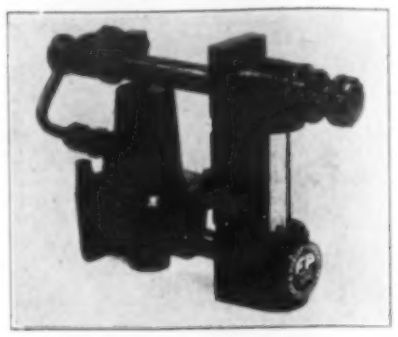
181 WYTHE AVENUE • BROOKLYN 11, N. Y.

Largest Producers of Electronic-Heat Treating Equipment

If you write maker identify as IEN-8167

CONTROL . . Pressure regulator, flow meter for constant differential

Source: FISCHER & PORTER CO.
14 Jacksonville Road, Hatboro, Pa.



Ask for Catalog 29

Air flow is maintained at a constant adjustable differential by this new combination of pressure regulator and Purgerator flow meter. The equipment can be employed to supply a small flow of air at a constant differential to purge manometer lines and thus prevent foreign particles from entering entering the manometer. It is suited to maintain a flow of air through a dip tube into a tank as a means to measure liquid level.

The piping arrangement between the regulator and the meter maintains a constant pressure differential across the meter independent of normal up-stream or down-stream pressure variation and independent also of the setting of a manually operated needle valve on the meter. A constant flow rate passes through the meter as determined by the setting of the needle valve. This flow is indicated by the position of the ball float in the glass metering tube.

The assembly measures about 5 in. from front to back. The meter body is about 1¼ in. in width by 4¾ in. in height. It is designed to mount on the front of a panel with the regulator at the back. The assembly is suited also to mount on a flange that is an integral part of the regulator.

If you write maker identify as IEN-8168

TRUCK . . Two wheel hand design, extra wheels, particularly for bags

Source: NUTTING TRUCK & CASTER CO.
2010 N. Division St., Faribault, Minn.

8 to 10 bags at once

Extra wheels at the rear of the nose plate on this new No. 1027 bag truck permit rolling the nose beneath a pallet on which a pile of bags is positioned. The two sets of wheels then provide a two-stage fulcrum that assists in bringing the load back into transporting position. The truck is available in 54 and 60-in. lengths with nose dimensions at 10 by 20 inches. Load capacity, based on heavy duty rubber tired wheels, is 800 pounds. Truck weights are 95 and 100 lb. respectively for the two sizes.

Steel legs guard the handles against contact with the floor if the truck is dropped. The hardwood frame is reinforced by an inner steel angle frame. The steel nose plate extends 9½ in. up the face of the frame for reinforcement. The main wheels are roller bearing design. The extra wheels are semi-steel. Both sets are mounted on cold-rolled steel axles with reinforcing sleeves.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-8169

CALL

Your steel requirements get prompt personal attention at Ryerson. A wide range of kinds, shapes and sizes are on hand, ready for cutting to your order—and quick shipment.

RYERSON

PRINCIPAL PRODUCTS:

Bars • Structures • Plates • Sheets • Tubing
Allegheny Stainless • Alloy Steel
Inland 4-Way Safety Plate • Babbitt
Metal Working Machinery & Tools, etc.

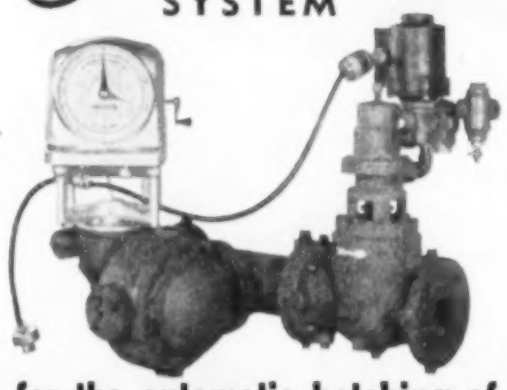
FOR STEEL

JOSEPH T. RYERSON & SON, Inc.

Plants at: New York, Boston, Philadelphia, Detroit, Cincinnati, Cleveland, Pittsburgh, Buffalo, Chicago, Milwaukee, St. Louis, Seattle, Spokane, Los Angeles, San Francisco

If you write maker identify as IEN-8170

THE *Fluidometer* SYSTEM



for the automatic batching of light or heavy liquids . . . . .

The Fluidometer System is available in either jacketed or unjacketed construction, and is adaptable to practically any liquid measuring problem, whether it involves gallons, barrels or tank cars. The automatic reset, an exclusive feature of Fluidometer, is invaluable in large scale production requiring steady repetition of operations. Send for Bulletin F1-49.

H&B ESTABLISHED 1887

HETHERINGTON & BERNER INC.
725 Kentucky Avenue Indianapolis, Ind.

If you write maker identify as IEN-8171

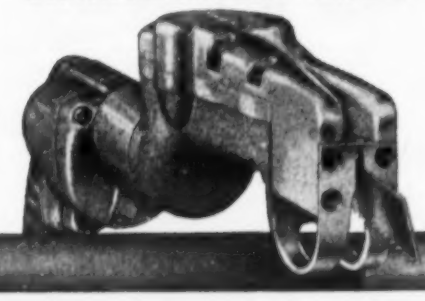
RCS SUPER SAW

SAVES YOU MORE TIME, RIGHT ON THE JOB, THAN ANY OTHER TOOL IN YOUR KIT!

A Journeyman's tool, built to stand up under constant, on-the-job Contractor or industrial use. Needs no starting hole—has built-in blower—fits any heavy duty ¼" or ⅜" drill—blades to cut all materials—listed on Federal Supply Schedules, Class 40 Materials.

Write for literature and prices (Bulletin H-7)

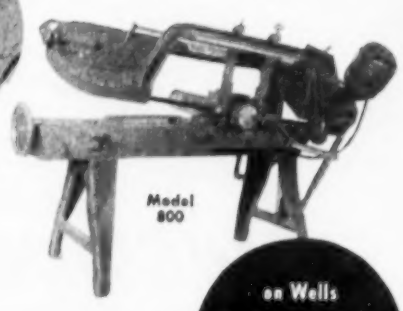
R.C.S. TOOL SALES CORPORATION • JOLIET, ILLINOIS



If you write maker identify as IEN-8172

NOW Wells offers you fool-proof blade tensioning . . .

Above is a close-up of the new Wells blade tensioning device.



Model 800

on Wells No. 5, No. 8, No. 12 and Model 800 cut-off saws

NOW IT IS POSSIBLE to maintain a constant blade tension on Wells cut-off saws. You can replace or change the blade any number of times, yet quickly and easily duplicate the correct blade tension. The new device is standard equipment on the models listed above. Simply turn the tension hand wheel until the fixed and moving indices coincide. At this point the blade tension is correct regardless of variation in blade length.

Wells

Products by Wells are Practical

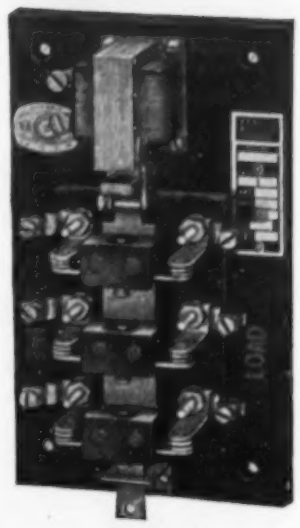
METAL CUTTING BAND SAWS

WELLS MANUFACTURING CORPORATION
1111 MADISON ST., THREE RIVERS, MICH.

If you write maker identify as **IEN - 8173**

NEW ZENITH MAGNETIC SOLENOID CONTACTORS

★ **SOLENOID OPERATED**
★ **FINE SILVER CONTACTS**
★ **SIMPLIFIED WIRING**



TYPE SC 33

This ZENITH contactor is built to withstand the severe service demanded by loads based on Type-C lamps.

It is designed on the straight-line principle, with the solenoid being connected directly to the contact bar.

The advantage of this method of construction is its easy access to any part for quick inspection or service, without disturbing other parts.

Models: Size 1 — 25 amps. Size 2 — 50 amps.

Either size can be supplied in any number of poles.

SEND FOR FREE CATALOG

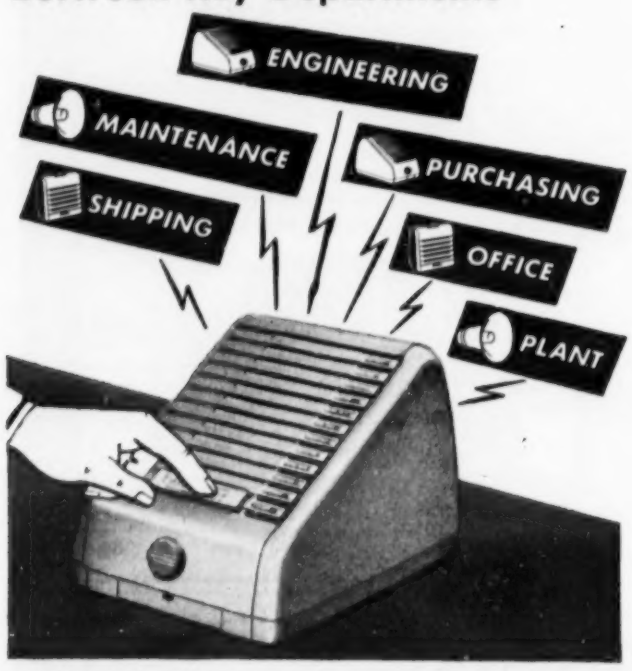
This big, illustrated catalog contains all the newest items in automatic control equipment made by Zenith! Write now for your Copy!

ZENITH ELECTRIC CO.
146 W. WALTON ST., CHICAGO 10, ILLINOIS

If you write maker identify as **IEN - 8174**

Step Up Production

with faster communication between Key Departments

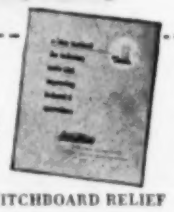


EXECUTONE Intercom puts every department at your fingertips—*instantly!*

Production moves faster when you don't have to wait for information. With Executone you talk to any department, anywhere in your office or plant—*instantly!* No time lost running back and forth. No waiting on "busy" inside phones. You get more work done—*faster!*

In the NEW Executone voices are amazingly crisp and clear. Installed and serviced by Executone-trained technicians. Low cost Executone soon pays for itself in dozens of ways.

Executone
GET THE FACTS **INTERCOM SYSTEMS**



EXECUTONE, INC., Dept. G-3
415 Lexington Ave., New York 17, N. Y.

Without obligation, please send me full data on Executone Intercom. I am particularly interested in:

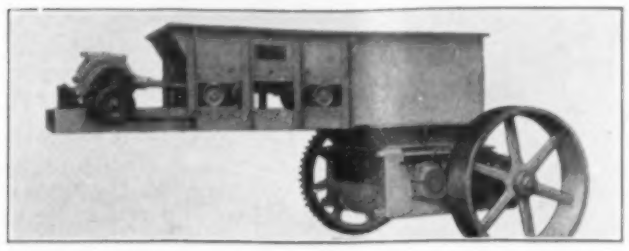
☐ INTER-OFFICE COMMUNICATION ☐ SWITCHBOARD RELIEF
☐ INTRA-PLANT COMMUNICATION ☐ INVENTORY CONTROL
☐ MATERIALS HANDLING CONTROL ☐ LOCATING PERSONNEL

Name.....Title.....
Firm.....
Address.....City.....

If you write maker identify as **IEN - 8176**

FEEDING . . Reciprocating plate unit controls delivery to a crusher, hopper

Source: McLANAHAN & STONE CORP.
100 Wall St., Hollidaysburg, Pa.



To 500 ton per hour

Model HDF is a new power driven reciprocating feeder available in a number of variations of one basic design. The unit shown discharges to a crusher hopper by means of a plate carried on four rollers. This plate is reciprocated by an adjustable eccentric power driven in connection with a Dodge torque arm reduction unit. Other types of drives can be specified, including a chain and sprocket from a crusher or other equipment. The feeder can be arranged so it will stop without holding up the action of other machines. It is available for specified size and type of material.

If you write maker identify as **IEN - 8177**

TRUCK . . Motor driven fork lift will stack 36 in. load in 6 ft. aisle

Source: BAKER-RAULANG CO.
1248-52 W. 80th St., Cleveland 2, Ohio

Features stability

Overall length of this new Type FL-15 truck is 95 inches. Turning radius is 59 in. for operation in 55-in. intersecting aisles. The truck rates ¾-ton load capacity. It has a maximum travel speed of 6¼ mph. and weighs 2,815 lb. without the battery. Overall width is 30 inches. Height is 83 in. in lowered position. Lift is through 130 inches.

The operating equipment is located under the housing beneath the operator's seat. This housing is bolted to the frame and can be removed quickly for inspection or maintenance. The operator's seat is off-set to one side for an unobstructed front view. The company's patented trailing axle permits smooth operation over obstructions and uneven floor surfaces.

Identify as **IEN - 8178**

Spraylat-A is a strippable plastic coating for use as a protective film on plastic surfaces such as Lucite, Plexiglas. It also makes an excellent mask over a surface on which designs are to be painted. It is applied, allowed to dry. Then the designs are cut through it and the areas to be painted are peeled off. The paint is sprayed or brushed on and, when it dries, the masked portions are stripped to leave a clean edged design. Spraylat Corporation, One Park Ave., New York 16, N. Y., tells you how in Bulletin M-1.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 8179**

ULTRA-CHEX GAGE BLOCKS *for Every Need!*

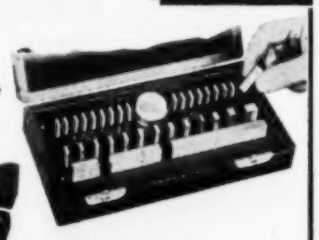
Supplied in one Superior Accuracy

5 MILLIONTHS ± ACCURACY

9 Block Set $22.50
OPTICAL PARALLEL **$5.00**

Quick Delivery on Small Standard Sets

34 Block Set $125.00
INCLUDING OPTICAL PARALLEL



82 Block Set
$275.00 Complete

This Set will supply the needs of any discriminating shop that must work to gage-block precision.

All Sets at "Money Saving Prices" due to Mass Production Methods.

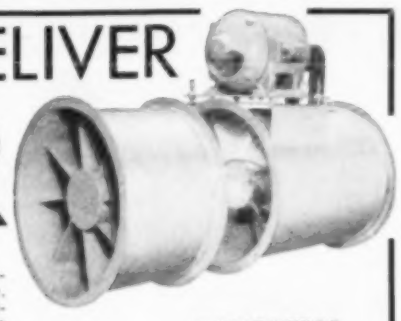
WRITE FOR FULLY ILLUSTRATED CATALOG

Dealers: Here's a real profitable line!

GEORGE SCHERR CO., INC.
COMPLETE LINE OF PRECISION INSTRUMENTS
200-EM LAFAYETTE ST. • N.Y. 12, N.Y.

If you write maker identify as **IEN - 8180**

WE DELIVER AIR



Industrial Air units are simple to install and maintain. Bearings and drive are completely protected from the exhaust air and can be replaced or serviced without removing the unit from the system. Available to your job needs and specifications, either direct or belt driven units, sizes from 12" to 48", motors from ⅛ H.P. to 50 H.P. Static pressure up to 4", 1,000 to 65,000 C.F.M.

VANEAXIAL FAN

Illustration shows installation of vanes on the discharge side of propeller. Waste energy is converted to useful work. The guide vanes straighten out the air stream, assuring a true axial flow of air.

TUBEAXIAL FAN

Designed especially for the critical and toughest ventilation or exhaust problem. May be connected to inlet or outlet duct, or both, as the installation may require.

Represented in all principal cities

Write Dept. 300 for complete catalog

THE HARVEY P. BERTRAM CO.
561-565 READING ROAD - CINCINNATI 2, OHIO

If you write maker identify as **IEN - 8181**

DO YOU USE MAGNETIC IRON POWDERS

for ELECTRONIC and INDUSTRIAL APPLICATIONS

OUR *Laboratory* FACILITIES

. . . are available for standard or specially developed POWDERS to meet your requirements

WRITE for this free technical bulletin TODAY!

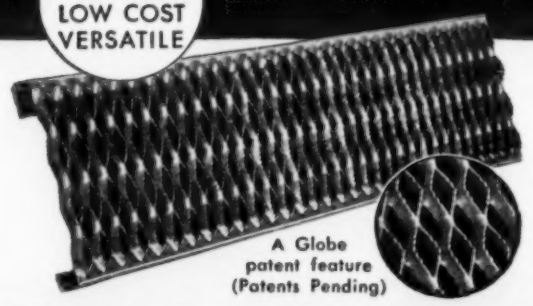
MAGNETIC POWDERS INC.
POST OFFICE BOX 247
JOHNSONBURG, PENNA.

If you write maker identify as **IEN - 8182**

Safety GRIP-STRUT

gives Maximum Strength with Minimum Weight

NON-SKID
RUGGED
LOW COST
VERSATILE



A Globe patent feature (Patents Pending)

Not welded, not riveted, not expanded, all one piece of material, gives a non-skid surface in *all* directions, a diamond shaped pattern with open space area in excess of 75% of surface, easily cleaned, sanitary. Simple to install, ideal for on-the-job fabricating, replaces existing grating with no supporting structural changes necessary. Strong yet light in weight. Ideal for stair treads, work platforms, catwalks, flooring, running board steps, in fact for any purpose where safe flooring is a factor. Available in steel or aluminum. Write for new catalog, showing new low prices, methods of application, typical installations and list of nationally known users.

Distributors in all principal cities.

GRIP-STRUT division
THE GLOBE COMPANY
Manufacturers since 1914
S. Princeton Ave. • Chicago 9, Ill.

If you write maker identify as IEN-8183

Safety STEEL STEP LADDERS

FOR EVERY NEED

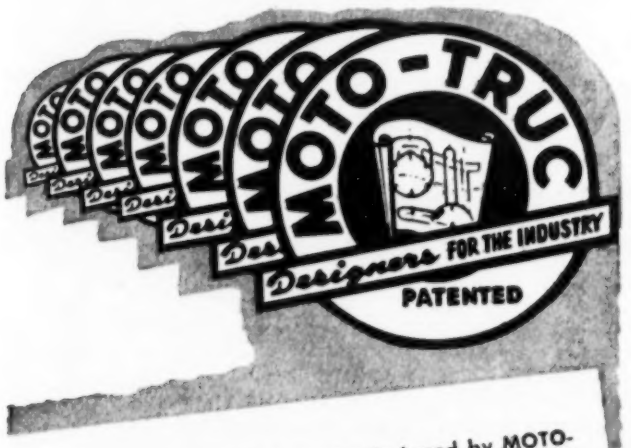
With safe, sure footing anybody reaches high places easier, with a sense of security that permits complete freedom of action to get the job done. Ballymore Ladders are sturdy and safe, can't roll when in use or kick out, have lots of foot room, strong hand rails. All welded construction. Ball bearing casters permit easy movement without lifting. One to three steps without hand rails. Three to eight steps with hand rails. "Special" models.

WRITE TODAY FOR COMPLETE CATALOG

BALLYMORE CO

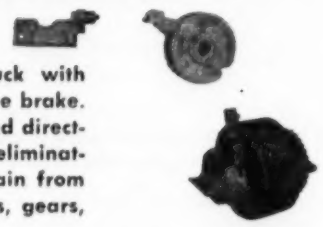
WAYNE 4, PA.

If you write maker identify as IEN-8184



Battery powered walkie trucks designed by MOTO-TRUC have set the pace in Industry for over 16 years. Many trucks originally designed for SPECIAL APPLICATIONS are today's STANDARD MODELS . . . truly, Designers for the Industry.

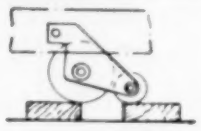
Equally important to specific truck applications are component truck parts. Pictured below are just a few of these MOTO-TRUC features.



The only "walkie" truck with Internal-Automotive type brake. Braking power is applied directly to the drive wheel, eliminating all unnecessary strain from the motor shafts, chains, gears, and sprockets.

Electric Hydraulic Pump is self contained, direct drive from motor to pump. Pump will lift 4,000 to 6,000 lbs. in a matter of seconds.

Roller Grip control affords FINGER-TIP control in operating forward and backward movement as well as the hydraulic lift.



Nydegger Shackles provide smoother operation in and out of elevators and over slated floors. (Optional)

Representatives in Principal Cities

The MOTO-TRUC Co

1987 E. 59th STREET • CLEVELAND 3, OHIO

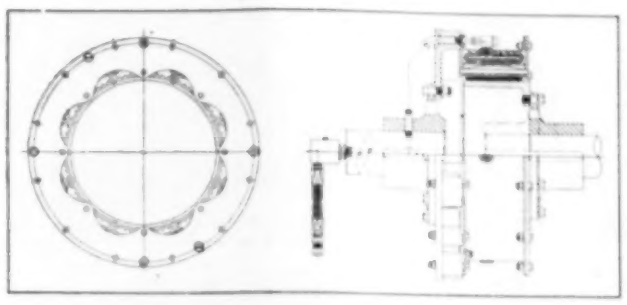
PALLET . . . PLATFORM . . . HI-LIFT TRUCKS

LARGEST EXCLUSIVE MANUFACTURER OF "WALKIES"

If you write maker identify as IEN-8186

DRIVE . . Friction clutch is operated by air in pneumatic tube

Source: FEDERAL FAWICK CORP.
9917-21 Clinton Road, Cleveland 11, Ohio



Ventilated for high starting loads, slippage service

We have new information and section drawings that explain, better than we did in IEN-4967-53, the construction and operation of the company's new Fawick-VC Air-Ring clutch. The view to the left shows the air-operated assembly alone. The section to the right shows a typical application. Each application is engineered and built to fit the needs of users of heavy equipment who require maintenance free life in heavy duty service.

Compressed air enters through the shaft in the application shown. It fills the tube cavity to expand the tube and force the friction shoes against the drum. Torque bars, attached to the metal side plates, are mounted beneath release springs in slots of the ventilated friction shoe-backing plates. Torque is transmitted from the side plates through the bars to the friction surface.

The clutch is disengaged when the compressed air is released from the tube so it can retract. Then the release springs, assisted by centrifugal force, pull the friction shoes from the drum. Eight sizes range from 12 to 48 in. in inner ring diameter, as reported previously. Corresponding torque capacity is 27,000 to 380,000 in. lb. based on 75-lb. air pressure and 100 rpm. in the range of sizes.

If you write maker identify as IEN-8187

STORING . . Steel bins are roller mounted in stacking racks

Source: STACKBIN CORP.
1077 Main St., Pawtucket, R. I.

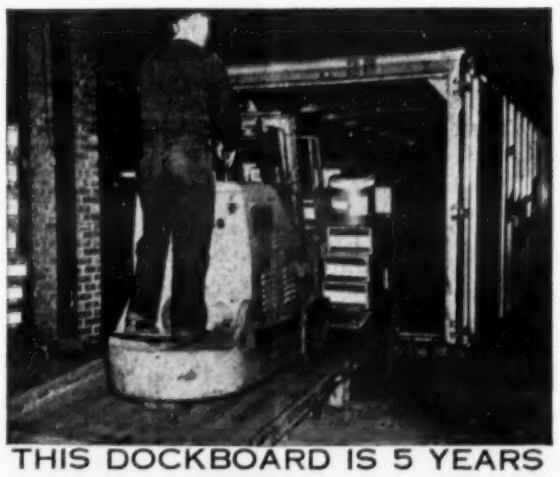
Ask for Catalog 500

Roller slides have been added to certain sizes in the company's line of bins and stacking racks, previously described IEN-3454-53. Minimum effort is required to roll a bin out or return it. Tote boxes or bins can be stored like drawers to hold small parts and material accessibly. Stops prevent the slides from being pulled out more than half way so that loaded bins cannot fall out accidentally.

The new construction applies to bins No. 0 to 5. The smallest measures 4½ by 8 by 3¾ inches. The largest measures 15 by 24 by 11 inches. Standard finish is in green baked enamel.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-8188



THIS DOCKBOARD IS 5 YEARS OLD — *and still going strong!*

When this company bought this Magcoa Magnesium Dockboard back in 1948, it made an investment in safe, light-weight, heavy-duty, *permanent* equipment. The first cost was the only cost.

How about you? Are you still risking workers, lift trucks and loads on a dangerous, makeshift bridgeplate? Replacing one beat-up, worn-out piece of plate with another one that really isn't any better? Why keep on paying and paying for heavy-metal plate never intended for that use, even by the companies that sell it? As a matter of fact, many of them were among the first to switch to safe, long-lasting Magcoa Dockboards—the line with more in-use service than all competitive equipment combined.

But why wait? Get the facts . . . contained in the free new Magcoa *Dockboard Facts File*. And be sure to look into the new Magcoa Portable Yard Ramp: a rugged, high-speed loading dock . . . where and when you want it. Write today.

FACTS FILE

MAGNESIUM COMPANY OF AMERICA
MATERIALS HANDLING DIV. • EAST CHICAGO 14, IND.

If you write maker identify as IEN-8189

KOHLER ENGINES

4-Cycle Air-Cooled

Power for garden tractors, mowers, pumps, sprayers, snow removal equipment, elevators and hoists, mobile saws, concrete mixers, compressors, feed grinders, industrial and lift trucks, and a wide range of tools and equipment for industry, construction, farm and home.

Engineered and built to the quality standards that have won acceptance for Kohler Electric Plants the world over. Write for information.

Kohler Co., Kohler, Wisconsin. Established 1873

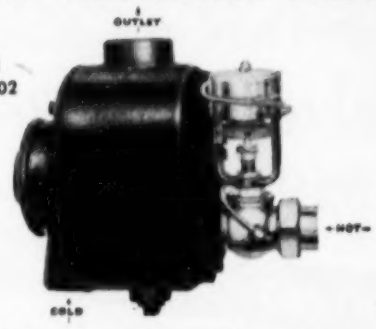
KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
AIR-COOLED ENGINES • PRECISION CONTROLS

If you write maker identify as IEN-8190

THRIFTY IDEA FOR WATER USERS!

Sylphon Hot-Cold Water Mixer No. 902



Mixer blends hot-cold water to constant temperature

Ideal wherever tempered water is needed—industrial processes, wash basins, showers, etc. Uses hot water from any storage tank or instantaneous heater. Mixes in hot water, regulated to give desired temperature. Water mixed before delivery. Temperature remains constant. Safety feature: if either hot or cold water supply fails, flow automatically shuts off. When supply returns, flow starts up. Sizes for various capacities and supply pressures. Installation simple. Ruggedly built. For details, write Department NN-D.

Robertshaw-Fulton CONTROLS COMPANY

FULTON SYLPHON DIVISION

KNOXVILLE 1, TENN.

Temperature Controls • Bellows Devices • Bellows Assemblies

Canadian Representatives, Darling Brothers, Montreal

If you write maker identify as IEN-8191

New DRY TAMP PERMAMix Floor Patch

Don't stop traffic to repair floors—use Permamix, the new all-temperature DRY TAMP floor patch.

DRY TAMP MEANS SPEED • No sticky mass to dig out of the drum or to handle • Permamix dry pours • sets instantly • feather edges perfectly • no production delays • non-skid surface.

ALL TEMPERATURE • Won't freeze • can be stored or used in any temperature • will store indefinitely • a stock room item • will not "set" in drum whether open or covered. Mistakes just can't happen. Tamp in place and traffic rolls.

CUTS MAINTENANCE COSTS on concrete, brick, tile or asphalt floors • no special equipment or skill needed • a one man job • comes in durable 50 lb. net wt. fibre drums • solve your floor patching problems for good.

Write for Details Now!

PERMAMIX CORPORATION

230 N. LaSalle Street • Chicago 1, Illinois

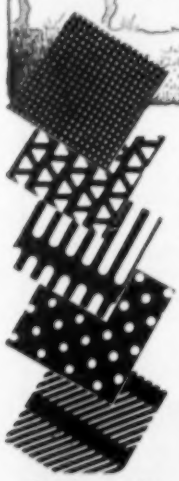
If you write maker identify as **IEN - 8192**

H & K Perforated Holes

THE HOLE IN THE DIKE — History tells us of the brave Dutch lad who, until help came, plugged this hole with his finger. History too, 70 years of it, has made for H & K an honored name in the business of perforating. They say "if it can be perforated H & K can perforate it."

We perforate round holes 1/50" in diameter and others ranging up to 9" diameter, slots, squares, triangles and other shapes — thousands of sizes and arrangements in stainless steel and all the metals, as well as plastics.

Send us your problems and your specifications—our engineers will be glad to help.



Complete catalog No. 62 sent gratis upon request

The Harrington & King Perforating Co.

5637 Fillmore Street, Chicago 44, Illinois
114 Liberty Street, New York 6, New York

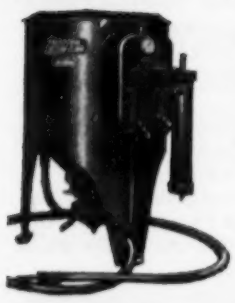
If you write maker identify as **IEN - 8193**

Here's how Pangborn

Solves these Problems

with this modern equipment

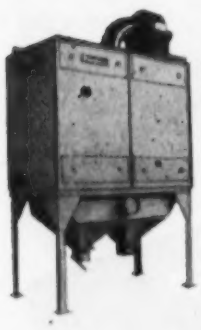
BLAST CLEANING!



Blast Cleaning Cabinet quickly and easily cleans metal parts of rust, grime, dirt, paint, etc. Produces a clean, smooth surface on pieces up to 60" x 36". Models available from **$319.00 and up.**

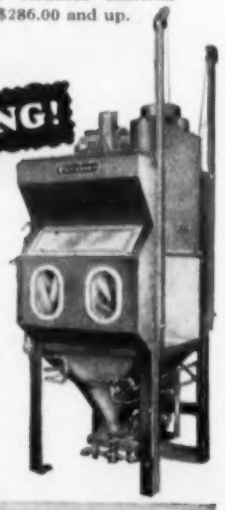
Blast Cleaning Machine not only removes rust, dirt, scale, etc., but is ideal for maintenance and many other uses. Cleans large objects such as bridges, structural work, tanks before painting. Six sizes, portable or **stationary, from $188.00 and up.**

DUST COLLECTING!



Unit Dust Collector stops dust at its source, minimizes machine wear and tear, reduces housekeeping and general maintenance costs. Solves many grinding and polishing nuisances. Reduces material losses. Models from $286.00 and up.

PRECISION FINISHING!



Hydro-Finish Cabinet uses liquid blast, eliminating dust, and reduces costly hand polishing, cleaning and finishing of molds, dies, tools, etc. Removes scale, discoloration and directional grinding lines, prepares surfaces for plating and coating. Holds tolerances to .0001". Models **from $1,410.00 and up.**

LOOK TO PANGBORN FOR THE LATEST DEVELOPMENTS IN BLAST CLEANING AND DUST CONTROL EQUIPMENT

Pangborn

MAIL COUPON for full details

(Check for more information)
- ☐ Blast Cleaning Cabinets
- ☐ Blast Cleaning Machines
- ☐ Unit Dust Collectors
- ☐ Hydro-Finish Cabinets

PANGBORN CORP., 2300 Pangborn Blvd., Hagerstown, Md.

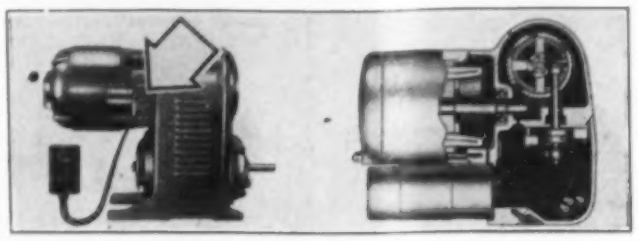
Gentlemen: Please send me more information on the equipment I've checked at the left.

Name .....
Company .....
Address .....
City ..... Zone .... State .....

If you write maker identify as **IEN - 8195**

DRIVE . . Motor driven control for the Varidrive variable speed drive

Source: U. S. ELECTRICAL MOTORS INC.
Box 2058-A, Terminal Annex, Los Angeles 54, Calif.



Bulletin 1797 illustrates and describes

New control unit makes it possible to change the output speed of the company's Varidrive drive equipment by push-button station. Its reversing motor rates 115 hp. at 1,800 as Type ERC. It mounts on the drive housing in place of the usual manual control handle. It is wired to the push-button station. Its reversing motor rates 115 hp. at 1,800 rpm. It is low inertia design to stop quickly. The motor drives a worm gear that mounts on the speed control shaft of the main unit and carries adjustable limit switches.

If you write maker identify as **IEN - 8196**

PROTECTING . . Dock cover rainproofs space from dock to boxcar

Source: ELWING CORP.
913-17 W. Adams, Jacksonville 4, Florida

Beats the weather

The company announces recently improved design in its Weather Screen dock cover and availability of three models. One provides overhead protection only in widths measuring 38, 50 and 62 in., outward from a car side. The second adds one side curtain. The third provides two side curtains.

Application can be made in two or three minutes and removal is in a little less time. Spillage control can be to the left or right. Construction is in mildew resistant fabric. List price, with two side curtains, is $98 to $120.50.

Identify as **IEN - 8197**

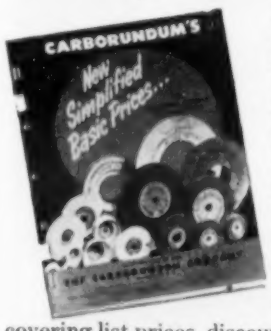
If you own stocks, or expect to, you may be interested in literature published by Arnold Bernhard & Company, 5 E. 44th St., New York 17, N. Y. This company specializes in an investment advisory service covering 561 leading common stocks. It offers, on subscription, a weekly publication service that reports on each of these stocks. The service classifies them, four times each year for each stock, under "especially recommended," "buy/hold," "may be held" and "switch." The company will send you a booklet, "An Objective Method" on receipt of your request. It describes the service.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 8198**

A PAID NEWS ADVERTISEMENT BY CARBORUNDUM COMPANY

NEW BASIC PRICE BOOK . . . Greatly simplifies ordering and pricing industrial grinding wheels



CARBORUNDUM has taken the mystery out of buying industrial grinding wheels...by adopting the first really simplified basic price system in the history of the industry. Now you can determine prices, ordering quantities and discounts for a given wheel, almost without exception, by checking a single page of CARBORUNDUM's "New Simplified Basic Prices of Grinding Wheels for Industry."

The extent of the simplification is indicated by the fact that the information requiring 114 pages—covering list prices, discounts, etc.—has been reduced to only 32 pages. You can now order your grinding wheels from CARBORUNDUM with a speed and accuracy hitherto impossible.

You no longer have to refer to several pages to determine prices and discounts, nor follow complicated rules, nor apply chain discounts, nor worry about decimal multipliers. Even special price additions covering various shapes have been eliminated. Basic prices are shown for all regular grinding wheels—straight wheels *and* special wheels such as dishes, saucers, flaring cups, special faces, cones, plugs and many others. Practically all the wheels you use can be priced with a single discount... thus further simplifying your paper work and minimizing errors.

Coincidental with the adoption of this basic pricing system, some price adjustments have been made. Prices of certain lines of wheels have been reduced, others are slightly higher.

Call your CARBORUNDUM distributor or salesman today for your copy of this new price book—let him show you how it saves you time and money. Or, if you prefer, use the inquiry form and we will mail it to you promptly.

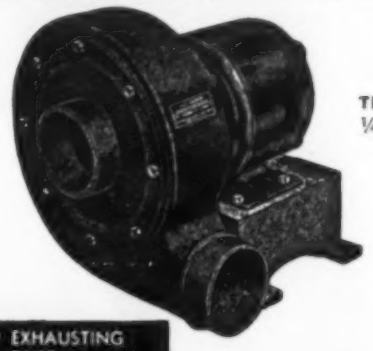
"Carborundum" is a registered trademark of The Carborundum Company, Niagara Falls, New York

81-318

THE CARBORUNDUM COMPANY
Niagara Falls, New York

If you write maker identify as **IEN - 8199**

THE *Sutton* MOTOR DRIVEN PRESSURE BLOWER



THREE SIZES ¼, ½, 1 H.P.

USE FOR
- EXHAUSTING
- DUST
- SMOKE
- FUMES
- VAPOR
- FORGE BLASTING

CONVEYING COTTON, WOOL, SHAVINGS
COOLING AND DRYING

MADE OF LIGHTWEIGHT CAST ALUMINUM ALLOY, CENTRIFUGAL TYPE. Direction of discharge may be changed to any of eight 45 degree positions. Straight wall construction reduces windage and increases efficiency. Standard 3450 r.p.m. direct-connected 60-cycle ball bearing motor, open or totally enclosed types. Capacities, 100 to 800 cu. ft. per min. at static pressures from ½" to 6."

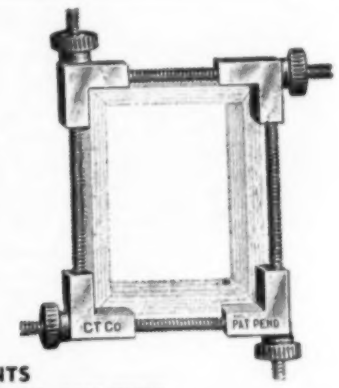
Write for *LITERATURE AND PRICES*

Sutton *Manufacturing Corp.*
126 W. WILSON AVENUE NORFOLK, VIRGINIA

If you write maker identify as **IEN - 8200**

NOW...

A Miter Clamp that does the Job



- **MAKES PERFECT JOINTS**
- **DOES FOUR CORNERS AT ONE TIME**
- **DOES NOT MUTILATE THE MATERIAL**
- **CAN BE USED ON HIGHLY FINISHED WORK**

Available from stock in four popular sizes, 8", 12", 18", 24". Larger sizes can be furnished when required. Minimum capacity all sizes 2" by 2".

The corner pieces are Aluminum, drilled to permit the use of brads when desired; the spindles and adjusting nuts are Steel.

Professional Craftsmen will welcome this handy, easy to operate Clamp.

WRITE FOR CATALOG:
Showing A CLAMP FOR EVERY PURPOSE, openings from ¾" to 12' and depths from ½" to 16", also Chisels, Punches, Star Drills, Brace Wrenches, Washer Cutters, File Cleaners and etc.

HARGRAVE Tested Tools — THE CINCINNATI TOOL COMPANY

THE CINCINNATI TOOL COMPANY
1953 Waverly Avenue Cincinnati 12, Ohio

There is an Industrial Distributor stock near you

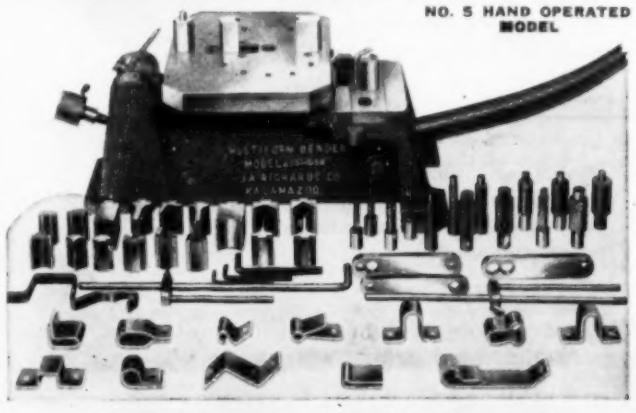
If you write maker identify as **IEN - 8201**

THE FAMOUS MULTIFORM BENDER CUTTER

Produces Without Special Tooling • Saves Die Costs Saves on Expensive Presses

The illustration to the left shows just a few pieces produced on our famous Multiform Bender-Cutter. This efficient machine is useful in all lines of trade, Spring Plants, Radio, and Electrical Equipment Manufacturers, complete with tooling for bending material up to ⅛" x 1½".

NO. 5 HAND OPERATED MODEL



FIVE-IN-ONE-TOOL — ALSO LARGER MODELS

Air Operated Models in this and Larger Sizes Available

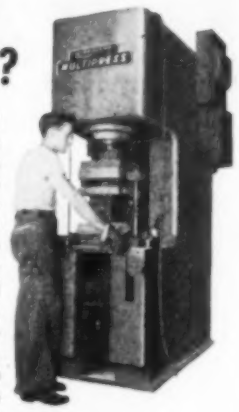
IT BENDS FLAT AND ROUND STOCK INTO ANY SHAPES, CUTS AND PUNCHES FLAT STOCK

J. A. RICHARDS CO. 907 NORTH PITCHER ST. KALAMAZOO 60F, MICH.

If you write maker identify as **IEN - 8202**

Want Better, Faster Production?

Which MULTIPRESS Fits Your Needs BEST?



The fast, smooth oil-hydraulic power and control of Multipress consistently brings production gains of many kinds. *Stroke length, ram speed* and *pressure* are easily adjusted to exact needs — for higher production speeds, better metal flow, better quality of work, less wear and tear on dies, safer operation, easier handling and quieter action. Equipped with automatic Multipress Index Tables, Multipress often keeps *two or more* operators busy loading parts at top speed. Other job-speeding accessories also available. Note the many Multipress sizes and capacities in the chart below. *Write for details.*

SPECIFICATIONS		BENCH MODELS				FLOOR MODELS				
Frame Size		B	D	F	G	H	K	L	N	Q
Capacities (Tons)		1	2,3,4,6	2,4,8	5,10	5,10,15	25	35	50	75
Max. Ram Speeds (I.P.M.)	Closing	1100	1300	1300	700	700	530	530	290	210
	Pressing	400	570	570	220	280	250	250	145	110
	Opening	600	920	920	310	500	470	470	290	220
Max. Stroke		6"	12"	12"	12"	12"	15"	15"	15"	15"
Max. Daylight Open'g		15⅞"	12"	18"	24"	23"	24"	24"	24"	30"
Throat Depth		5"	6"	8⅛"	12"	10"	12"	12"	12"	10"

CHOICE OF MANUAL AND AUTOMATIC CONTROL VALVES FOR ALL MODELS

DENISON HydrOIL ics

The **DENISON** Engineering Company
1150 Dublin Rd., Columbus 16, Ohio

If you write maker identify as **IEN - 8203**

FOR MATERIAL HANDLING—

more and more—the swing is to wide-base pneumatic tires

GENERAL

INDUSTRIAL PNEUMATIC TIRES

More Designers are specifying wide-base General Pneumatics.

They know Generals add these extra selling points to handling equipment.

SAVE TIME · MONEY · LABOR

- *MORE LOAD CAPACITY AT LOW OR HIGH SPEEDS*
- *CUSHION EQUIPMENT AND LOADS REDUCING BREAKAGE AND SPILLAGE*
- *SAVE HIGH COST FLOORS AND FLOOR SURFACES*
- *SLOW, EVEN WEAR FOR LONG SERVICE*
- *HIGH FLOTATION FOR EASIER ROLLING OVER SOFT GROUND*
- *ROLLS EASIER, SMOOTHER OVER ALL SURFACES*

Available separately or in assemblies of Tires, Tubes and Wheels. Size O.D. 8" to 27"—200 to 4000 lbs. cap. for low or high speeds.

THE GENERAL TIRE

Rigid **CASTER FORKS** *Swivel*

Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

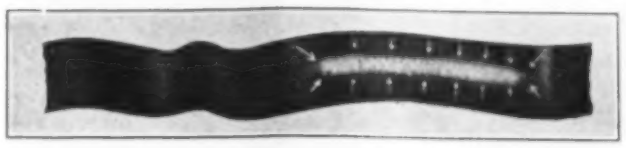
SEND FOR CATALOG . . . DEPT. 6

THE GENERAL TIRE & RUBBER CO. AKRON, O.

If you write maker identify as **IEN - 8205**

MARKING . . Typewriter ribbon "flows" ink from filled to worn areas

Source: PHILLIPS PROCESS CO.
198 Mill St., Rochester 4, N. Y.



Re-inks itself

Ink-Flow trade names a new typewriter ribbon employing a colloidal pigment ink and cotton, silk, or nylon fabric. The ink flows within the fabric from filled to worn areas to keep the latter re-inked for an extended period of service. The ink dries quickly on paper without smearing or smudging. Impressions are fade-proof but can be erased without difficulty. The ink will not corrode or fill the typewriter type. It will not spread or feather in any kind of paper and is not affected by climate changes.

If you write maker identify as **IEN - 8206**

LIGHTING . . Mercury arc lamp rates 700 watts, provides 35,000 lumens

Source: WESTINGHOUSE ELECTRIC CORP.
511 Wood St., Dept. IEN, Rm. 1110, Pittsburgh 30, Pa.

Rated life
4,000 hours

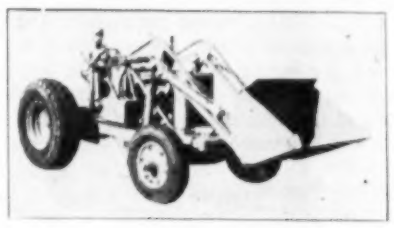
Inner tube, made of quartz, encloses the arc in this new 700-watt mercury lamp. The tube is sealed inside an outer bulb of clear glass, shaped for about even temperature over its surface. The base is mogul screw type. Overall length is about 14½ inches. Mercury vapor pressure, during operation, is about four atmospheres.

The lamp operates in any position. Recommended mounting height is 24 ft. or more. Operation is on a 440-volt circuit in connection with a suitable choke. Other voltages can be employed with a ballast that also acts as a transformer. List price is $40.

If you write maker identify as **IEN - 8207**

HANDLING . . Power shovel mounted on Sheppard diesel tractor

Source: BAKER-LULL CORP.
312-16 W. 90th St., Minneapolis 20, Minn.



Burns cheap fuel

Load rating is 2½ ton for this new assembly of the Shoveloader and a diesel driven tractor. The shovel can be employed in handling and construction work. It will crowd and dig below the tractor level. It will lift its capacity load to 10 ft., 3 in. above ground level and will dump at 8½ feet. Reach beyond the tractor radiator shield is 5 ft., 10 inches. Lift interval is 12 sec. and lowering interval is 9 seconds. Double-acting cylinder design enables the operator to shake the bucket to promote emptying.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58

If you write maker identify as **IEN - 8208**

Grafo Lubricating Compounds

SINCE 1934

Only good products can be advertised continuously

1934 . . Hydrograf a colloidal graphite water concentrate diluted for parting compounds, for die and mold lubricants, for impregnation.

1937 . . Grafo Grease Concentrate for compounding greases and waxes.

1939 . . Assembly compound to condition bearings on initial running in.

1942 . . Shellgraf for use on dies and mandrels in shell forging operations.

1945 . . Diegraf for forging, drawing, stamping dies and molds.

1946 . . Kilngraf a ready-for-use graphited oil for kiln cars, oven chains and similar extreme heat applications.

1948 . . Grafolux a water compound for applications where the finest colloids are not needed.

1951 . . Grafo 5 NC to spray on the surface of forging dies.

1953 . . Colloidal graphite compounds for dependable lubrication and protection, performance proved over the years. Tell us about your tough lubrication problems and let us solve them.

GRAFO COLLOIDS CORPORATION

MANUFACTURERS OF Grafo COLLOIDAL PRODUCTS

299 WILKES PL.
SHARON, PENNSYLVANIA

If you write maker identify as **IEN - 8209**

SPEED LOAD HANDLING

for Truck, Shop or Machine

UNIT *utility* HOIST

Hydraulically operated Unit Utility Hoists can speed and ease handling of 1000 to 2000 lb. loads around your trucks, shop or machines, and the hoist itself can be switched from the truck, floor or machine mount in seconds. Three lifting points and boom extension give a wide working range. Hoist swings 360° on truck and locks securely in traveling position. Many uses in every plant.

Write today for latest information

UNIT MFG CO. 1221 Harmon Place, Minneapolis 3, Minnesota

If you write maker identify as **IEN - 8210**

Testing Instruments ...VIA GRAYBAR

FREE Buyer's Guide is handy source of information on all instruments

This helpful guide covers what you need to know to select the right G-E testing instrument for the job — instrument features, range, type and application. In addition, to portable recorders, pyrometers, viscosimeters, tachometers and other specialized instruments, this booklet gives special emphasis to the popular line of G-E "Hook-ons".

AK-1A Hook-on Volt-Ammeter . . . accurately measures a-c circuits without interrupting service. 5 current ranges to 750 amperes and 3 voltage ranges to 750 volts with easy switchover. Accuracy to ±3% of full scale value.

AK-2 Hook-on Wattmeter . . . quickly measures a-c power in single- or polyphase circuits. 6 ranges to 300 kw. Accuracy to ±5% of full scale value. Determine power factor with AK-2 *and* AK-1A in combination.

AK-3 Hook-on Power Factor Meter . . . gives *direct* power factor reading in 100 to 600 volt circuits, currents from 15 to 600 amperes. Accuracy to within 0.05PF.

Graybar Electric Company, Inc. Executive Offices: Graybar Building, 420 Lexington Ave., New York 17, N. Y.

Call Graybar *first* for . . . Everything Electrical GraybaR

334-127

If you write maker identify as **IEN - 8211**

NOW! AN IMPROVED LOW COST CASTER

with Hardened Raceways Unbreakable Fork and Top Plate

SERVICE PRESSWELD CASTERS

STRONG! AGILE! QUIET!

Here, at last, is a truly efficient, light-weight caster in the low-cost field. Ideal for Dollies, Racks, Box Trucks and similar applications in the moderate capacity range. Many features usually found only in high price casters provide for years of trouble-free performance. Get PressWelds — and get SERVICE quality at low cost.

Write for sizes, capacities and low prices

INDOOR-OUTDOOR **SERVICE CASTER & TRUCK CORP.**
Executive Offices: Albion, Michigan
Plants at Albion, Michigan & Somerville 43, Mass.

See your Classified Telephone Directory for Nearest Distributor

If you write maker identify as IEN - 8212

WICKWIRE ROPE SLINGS

tough...strong...extra flexible

Wickwire Rope Slings are offered in both braided and conventional types . . . are designed to hitch on to heaviest loads with utmost safety, ease of handling and absolute security of attachments. Where extreme flexibility is required, Wickwire Slings of braided design give definite advantages in non-kinking qualities and in their ability to handle materials of all types and shapes without taking a permanent set.

Let us know your requirements. Our engineers will be pleased to analyze your sling problems and recommend the correct solution.

THE COLORADO FUEL AND IRON CORPORATION – Abilene (Tex.) Denver • Houston • Odessa (Tex.) • Phoenix • Salt Lake City • Tulsa
THE CALIFORNIA WIRE CLOTH CORPORATION – Los Angeles Oakland • Portland • San Francisco • Seattle • Spokane
WICKWIRE SPENCER STEEL DIVISION–Boston • Buffalo • Chattanooga Chicago • Detroit • Emlenton (Pa.) • New York • Philadelphia

WICKWIRE ROPE
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION THE COLORADO FUEL AND IRON CORPORATION

If you write maker identify as IEN - 8213

MAINTENANCE PROBLEMS?

TRY

GPX®

PLASTIC-FACED PLYWOOD

GPX offers an unbeatable combination of unique properties in a maintenance material. It is made from top-quality Douglas Fir Plywood surfaced with a hard, smooth overlay of phenolic resin plastic. It *never* needs painting or other preservative treatment. GPX is smooth, strong and easy-to-work. It is highly resistant to weather, water, abrasion, chemicals and vermin.

GPX has already proved itself in more than sixty different uses, including industrial tables, freezer walls, humidity chambers, fume ducts, drying boards, foundry match plates, sorting tables, interior and exterior walls, and many more. Write for free information. Find out how GPX can help you solve your own maintenance problems.

GEORGIA—PACIFIC
PLYWOOD COMPANY
Dept. G, 614 North Capitol Way, Olympia, Wash.

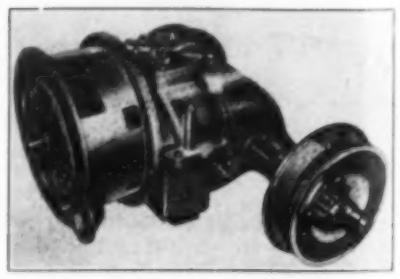
For complete data, fill in and mail this coupon today

Georgia-Pacific Plywood Company G-614
Plastic Plywood Division
Marsh Street, Port Newark 5, N. J.
Please send me further information on GPX Plastic-Faced Plywood.
Name _____
Position _____
Firm Name _____
Address _____
City _____ Zone _____ State _____

If you write maker identify as IEN - 8215

TRUCK . . Hydraulic transmission for company's engine driven equipment

Source: CLARK EQUIPMENT CO.
Battle Creek 49, Mich.



Simplifies operation

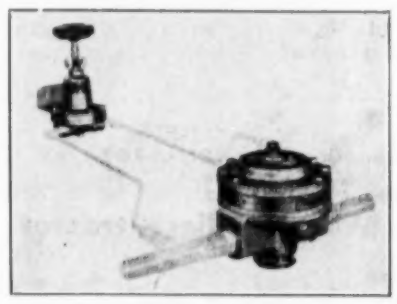
Hydratork trade names a new assembly of hydraulic torque converter and constant mesh transmission for application as a unit in the company's line of engine driven industrial trucks. The new assembly employs a direction selecting lever and pumps hydraulic oil for forward or reverse movement depending on the position of this lever. Gears for both directions remain in mesh so there is no shifting. The engine clutch, clutch pedal and speed change gears have been eliminated.

Changes in speed are obtained by control at the engine throttle. The direction selector lever is connected with an electric switch that prevents the engine from starting unless the lever is in neutral position. Partially depressing and releasing the brake pedal actuates a valve which cuts the supply of power to the drive wheels. Further depression of the pedal engages the standard hydraulic brakes. The transmission itself is lubricated by the hydraulic fluid.

If you write maker identify as IEN - 8216

VALVE . . Air pressure regulator, pilot controlled, 2 to 120 lb. range

Source: C. A. NORGREN CO.
3432 S. Elati St., Englewood, Colo.



For precision control

Flow rating is 200 cfm., or more, through this new pilot controlled air operated pressure regulator. It employs a manually operated regulator which requires only light spring to supply air pressure for operation of the main unit for air delivery in an adjustable range between 2 and 120 pounds. The manual pilot can be placed for convenience.

The main regulator need not be in the open or in any particularly accessible position. Connection between the two is by ¼-in. tube. The main housing measures 4⅞ in. in diameter by about 5¼ in. in height. Pipe connections are ½, ¾ or 1 inch.

Identify as IEN - 8217

American Electric Heater Company manufactures soldering iron tips in a variety of shapes and sizes. It has perfected a process to plate the tips with commercially pure electrolytic iron to improve the life of the tips in service.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8218

Best handle . . . *by far!*

- Rugged • No Rattle
- Rust-proof
- Built to Military Specifications

Attention manufacturers of portable equipment, carrying cases, parts boxes, etc.! If your product requires side-carry handles, install the best—the Bendix-Friez handle. This superior handle was developed to meet strict military requirements for many specialized equipment uses. Ruggedly built of aluminum and stainless steel in a sturdy design, it knows no equal for long, faithful service. Can be riveted or welded to any kind of container . . . or depressed in the surface, if desired. Unique "snap-back" feature stops rattle from shock and vibration. Prompt attention to both large and small lot orders. Try us today.

Bendix-Friez

FOR FULL DETAILS, WRITE:
FRIEZ INSTRUMENT DIVISION OF Bendix
1328 Taylor Avenue, Baltimore 4, Maryland

Export Sales: Bendix International Division, 205 East 42nd Street, New York 17, N. Y.

If you write maker identify as IEN - 8219

The ease with which your equipment may be guided, and the smooth operation of the positive swivel, will continue over a long life of satisfactory service if you use

Darnell Casters

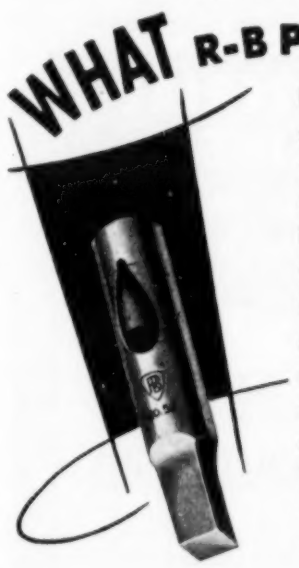
DEMAND DARNELL DEPENDABILITY

Write for Free Darnell Manual

DARNELL CORPORATION, LTD.
DOWNEY (LOS ANGELES COUNTY) CALIFORNIA
60 WALKER STREET, NEW YORK 13, NEW YORK
36 NORTH CLINTON STREET, CHICAGO 6, ILLINOIS

If you write maker identify as IEN - 8220

WHAT R-B PUNCHES SAVE...



If you use shoulder or set-screw type punches, you have excessive press down-time when replacing worn or broken punches.

But, with R-B interchangeable and standardized punches and die buttons you get quick insertion and removal in the press. The R-B ball lock features, that assure positive radial alignment and vertical locking without further keying, permit greater press utilization.

RICHARD BROTHERS PUNCH DIVISION
ALLIED PRODUCTS CORPORATION
DEPT. 72 • 12615 BURT ROAD • DETROIT 23, MICHIGAN

Also Produced in **OTHER ALLIED PLANTS**
SPECIAL COLD FORGED PARTS • STANDARD CAP SCREWS
PRECISION GROUND PARTS • SHEET METAL DIES MADE OF FERROUS ALLOYS, ZINC ALLOYS OR PLASTICS

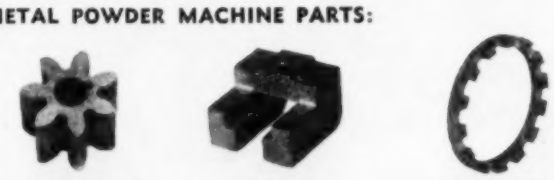
If you write maker identify as IEN - 8221

MACHINE PARTS and BEARINGS *by Powder Metallurgy*

SELF-LUBRICATING BEARINGS:

Standard sizes as described in Metal Powder Association Standard No. 14-51T on (Metal Powder Sintered Bearings). Also special bearings. Write for complete information.

METAL POWDER MACHINE PARTS:



AUTOMOTIVE TEXTILE AIRCRAFT

Above are just three of the many types of metal powder machine parts we manufacture. Also manufacturing metallic friction materials and filters.

Metal powder machine parts can be purchased under several government and industry specifications. These include MIL-B-5687-A, MPA 16-52T and ASTM B-202-45T.

If you are reviewing costs on existing parts or estimating on new construction and will send us your prints, our engineers will:

(1) Furnish you with quotations if the part is adapted to our method of manufacture.

(2) Suggest possible modification in design to effect further economies.

(3) If the part is not feasible in metal powder suggest other practical methods of manufacture.

Powdercraft Corp.
750 Hayne Street
Spartanburg South Carolina

If you write maker identify as IEN - 8222

NEW!

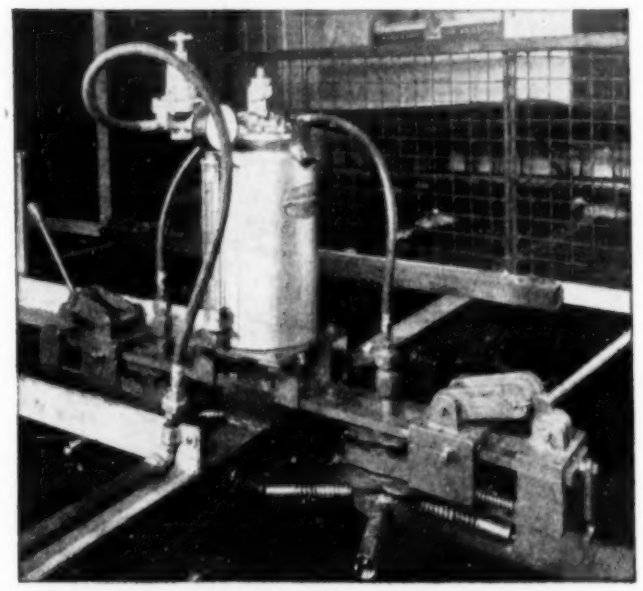
Delpark Filters for Paint Spray Booth Water

Now—through the use of Delpark industrial filters and automatic skimming, paint spray booth operation is more efficient. Hand-skimming, necessary with former methods, is eliminated. Fouled water spray jets and eliminators no longer interrupt spray booth operation. Clean-up labor and spray booth maintenance are reduced to a minimum.

Write today for information on the Delpark Paint Spray Booth Filter now in use in many large automotive plants.

INDUSTRIAL FILTRATION COMPANY
95 INDUSTRIAL AVE. LEBANON, INDIANA

If you write maker identify as IEN - 8223



Here's How to Lubricate "Skyhooks"

Close-up of an installation in one of our great electric refrigeration plant—lubricant is released only when fitting and gun are in alignment.

"Go hang it on a skyhook" undoubtedly inspired the overhead conveyor, and while they have been a great boon to production and the saving of floor space, they do pose a very specialized problem of lubrication. Not only must there be adequate lubrication for a wide range of temperatures, but it should also be a controlled supply, to avoid the hazard of grease from overhead. Fauver Automatic Conveyor Grease Lubricators meet all of the problems accompanying the lubrication of "Skyhooks" . . . Send for complete information regarding this automatic, positive lubrication for your conveyors.

FAUVER Catalogue literature also includes a twenty page section relative to Hydraulic Hose Assemblies and Fittings; data regarding Bullseye Coolant Spouts, etc., a request will bring any part or all of this information:

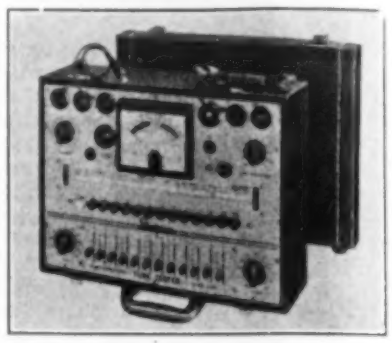
FAUVER
J. N. FAUVER CO., INC.

J. N. FAUVER COMPANY, INC.
51 WEST HANCOCK, DETROIT 1
OFFICES...FLINT, GRAND RAPIDS
BRANCH...DAYTON, OHIO

If you write maker identify as IEN - 8225

TESTING . . Plate conductance unit checks condition of electronic tubes

Source: SIMPSON ELECTRIC CO.
5202 W. Kinzie St., Chicago 44, Ill.



For shop and field

Model 1000 is a new plate conductance tube tester for application on receiving tubes including 9-pin miniatures and subminiatures with base arrangements in line or circle. The dial indicates percentage of rated plate conductance. Each test is made under conditions simulating actual in radio, television, hearing aids and other electronic circuits in which tubes are employed.

Multi-position toggle switches assist in quick adjustments for proper voltages for bias, screen and plate supply. Each tube element is individually connected to the correct potential to insure against tube damage during testing. Transparent plastic windows assemble over the roll chart that occupies a central position back of the front panel. This chart is revised once a year, in May. New charts can be purchased to keep the data up to date. Supplements are free each November.

The panel is finished in non-glare gray hammerloid and the equipment is assembled in a carrying case resembling luggage. The meter dial cover is in one piece of unbreakable clear plastic. The fuse socket is assembled in the panel. List price with an operator's manual is $135.

If you write maker identify as IEN - 8226

MILLING . . Circular cutter with attached interchangeable blades

Source: MILLIT INC.
33 Flint St., Rochester 8, N. Y.

One body takes several sets of blades

High speed steel and cast alloy tips are available, as well as carbide tips, in the interchangeable blades in this milling cutter, previously described IEN-8833-52. The cutter is characterized by blade rigidity which results from the manner in which each blade is held down by a dowel fitted screw and is butted against the cutter body and also doweled in position there. Rake and shear angles are built into the blades.

The cutter can be set up quickly for aluminum, cast iron, steel. It can be changed from one type of milling to another by changing the blades. Stock sizes range from 3 to 8 in. in diameter and ½ or ¾ in. in blade width. List price is $36 to $78. Replaceable blades are $2.70 and $3.90 each. Special cutter sizes can be specified to 14 in. in diameter.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8227

VOLTS and AMPS at a glance with the COLUMBIA

A. C. TONG TYPE VOLT-AMMETER

• Quickly • Accurately • Safely

Columbia Type AC-1 provides ampere readings with a snap by merely clamping jaws around the electrical conductor, without breaking circuit or insulation. Voltage readings are taken quickly and easily with safety plug-in leads. This instrument is one of the Columbia line of tong type instruments of the highest quality and dependability.

TYPE AC-1 FEATURES

- Measures up to 600 Amperes and 600 Volts.
- Amperes: 0/12/60/120/-600 A.C.
- Volts: 0/150/600 A.C.
- Convenient Range Switch.
- Insulated Jaws will accommodate Conductors up to 1⅛" diameter, Bus Bars up to 2" x ½".
- Accuracy: 3% full scale.
- Light Weight—Fits Easily into Pocket.
- High Quality at Low Cost.

Inquiries Invited from Distributors • Write for Descriptive Bulletin AC-19

COLUMBIA ELECTRIC MFG. CO. 4519 Hamilton Ave. Cleveland 14, Ohio

If you write maker identify as IEN - 8228

TO THE INGENIOUS

Not familiar with this

NEW INDUSTRIAL TOOL

Free Sample of Fullergript Brush Strip

What problems can you solve by adapting Fullergript to your equipment?

This brush strip can be coiled or twisted into numerous shapes. It can be formed to give intermittent or continuous brushing action. It adapts to stationary or power driven applications. How it may help *you* is a matter of your own ingenuity — plus the services of the Fuller Brush Engineering Dept. Find out what Fullergript can do by sending for a sample strip. We will also send a booklet showing its versatility. Simply write today.

The economy of continuous operation made possible by continuous scrubbing to remove hard baked deposits from steel conveyor in bake oven. Power driven unit applies action through two types of Fullergript brush strip.

INDUSTRIAL Fuller BRUSH CO. DIVISION

3583 MAIN STREET • HARTFORD 2, CONN.

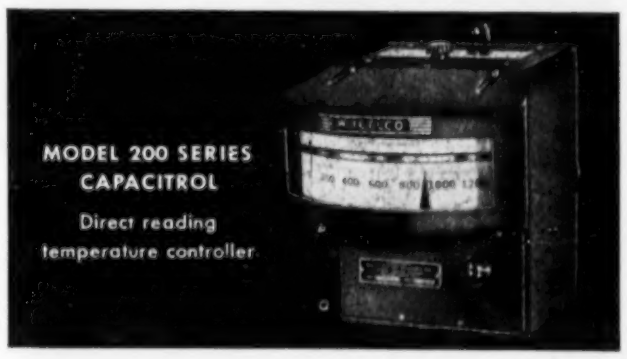
Power driven brushes, Factory & Institutional cleaning tools, Waxes & Detergents

If you write maker identify as IEN - 8229

BARBER COLMAN

Wheelco Instruments

maintain constant temperature . . . eliminate overheating!



for off-on, proportioning or anticipating control . . . dependable indicating

If you use heat in the pyrometric range up to 3600° F. . . . in ovens, furnaces, kilns, etc. . . . you can save fuel, improve work quality by using Wheelco Model 200 Series Capacitrols for precise measurement and control of temperature. Electronic principle gives fast "no contact" control action. There's no mechanical linkage, friction or lag. Indicator movement as slight as .006" produces immediate response. Available in five models, for off-on, proportioning or anticipating control. Write for Bulletin F-5783.

Factory-trained field engineers in all principal cities

WHEELCO INSTRUMENTS DIVISION • BARBER-COLMAN COMPANY
Dept. G, 1516 Rock St., Rockford, Illinois

If you write maker identify as IEN - 8230

Two Way Protection

Slip a Twin Disc HYDRO-SHEAVE® Drive on the end of motor or engine shaft, and you've gained *two*-way protection . . . a "cushion" of oil that *protects:* (1) motors and engines from damaging overloads; (2) driven equipment from shocks and vibrations. Call your Twin Disc Hydraulic Dealer today—find out how other industries in your area are getting two-way protection against overload repairs and lost man-hours with HYDRO-SHEAVE Drives. And write for Bulletin 145-B.

HYDRO-SHEAVE Drive —the Twin Disc Hydraulic Coupling unit designed for easy installation on motors or engines from ¾ to 50 hp.

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • HYDRAULIC DIVISION, Rockford, Illinois

BRANCHES: CLEVELAND • DALLAS • DETROIT • LOS ANGELES • NEWARK • NEW ORLEANS • SEATTLE • TULSA

If you write maker identify as IEN - 8231

ARMSTRONG BROS.
Better PIPE TOOLS

Reversible Ratchet STOCKS and Adjustable DIES

Exceptionally convenient where space is limited, this stock simplifies pipe threading close to walls, in corners and wherever operating room is restricted. With adjustable dies (cut exact, over or under size threads) it is an ideal tool where valves and fittings are being installed or maintained.

"ARMSTRONG BROS." Adjustable Dies are of special Vanadium Tool Steel, have "backed-off" teeth, correct cutting angle, ample chip clearance and correct throat angle. They start and cut easily, hold their sharpness and "spin" off pipe without jamming or tearing threads.

Write for Catalog

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
5243 W. ARMSTRONG AVENUE • CHICAGO 30, ILL.

If you write maker identify as IEN - 8232

AUTOMATIC PROTECTION OR CONTROL for your heating process

...WITH ALNOR PYROTAC

Here's a simple, low-cost way to obtain *AUTOMATIC PROTECTION* against damage due to excessive temperatures . . . safeguard your investment in heating equipment and materials in process. This precision-built instrument constantly indicates temperature of the heated equipment and sounds an alarm and/or shuts down the heated circuit at a safe, pre-set temperature. It may also be used as a *CONTROLLER* on a process requiring shutdown upon reaching a final process temperature—such as ceramic kilns, molds, etc. Automatic thermocouple break protection assures safety if couple or extension wires should break.

Ask your Alnor representative for details on this sturdy, precise instrument. You'll find the price of less than a hundred dollars unusual for an instrument of this type. Write for bulletin that contains complete description and wiring diagrams of actual applications. Illinois Testing Laboratories, Inc., Room 517, 420 N. LaSalle Street, Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

If you write maker identify as IEN - 8233

The only perfect, mathematically designed boring tool on the market *for mass production boring and internal threading*

THE BOKUM BORING TOOL

STYLE A for General Boring

STYLE B for Bottoming and Facing

STYLE C for Internal Threading

BORE MORE HOLES IN LESS TIME

The cutting heads of Bokum Tools were designed to give you fast performance, economy in production, and efficiency in results.

Repeated resharpenings (one face only) does not change the scientifically-engineered helical form. Thus the clearance remains constant throughout life of tools — and they do have a long life.

Available in:

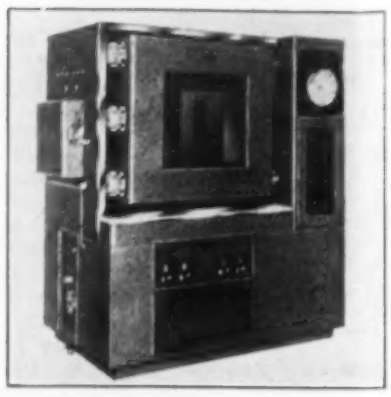
- Super high-speed steel
- Carbide-tipped
- Solid tungsten carbide
- For boring holes from 1/16" diameter up.
- Put up in sets of desired tool sizes and types, in quantity assortments to suit.
- Special holders for specific uses.
- Send for complete catalog.

BOKUM TOOL CO.
DEPT. N • 14775 WILDEMERE AVE. • DETROIT 21, MICH.

If you write maker identify as IEN - 8234

TESTING . . Atmosphere chamber to vary test temperature and humidity

Source: MURPHY & MILLER
1324 S. Michigan Ave., Chicago 5, Ill.



Simulates service conditions

Temperature range is between minus 130 and plus 200 deg. F. for this new atmosphere chamber. It is available in five sizes supplementing the 27 cu. ft. unit, previously described IEN-6266-52. Standard humidity range is 20 to 95 per cent from 35 to 185 deg. F. Test space capacity is 4 to 36 cubic feet.

Refrigeration is provided by a heavy duty water cooled hermetically sealed compressor motor assembly serving copper cooling coils. The design eliminates any possibility of oil trapping. Safety switches for the compressor, overload protectors and an automatic pump-down control are standard equipment. Automatic drain valves also are furnished as standard when a humidity cycle is incorporated.

Air is circulated through the test chamber by a motor driven fan with the motor mounted on the outside. The cabinet is insulated. Welded seams on the steel exterior panels provide for positive vapor sealing of the insulation. The test chamber is stainless steel with welded water tight seams. In it are four ⅝-in. sleeve openings through which electrical leads and hydraulic lines can be entered. An electric defrost prevents condensation on products being tested by increasing their temperature to ambient before removal from the test area.

If you write maker identify as IEN - 8235

CASTER . . Double ball swivel, 5 and 6 in. wheels, load to 350 pounds

Source: BASSICK CO.
439 Howard Ave., Bridgeport 2, Conn.

$4.60 to $7.30

Economical cost and double ball bearing swivel action feature the new Series-68 5 and 6-in. steel casters. Swiveling forces are transmitted through the double circle of balls which ride in die formed coined hardened and cupped raceways in line contact. Thread guards and bolt and nut axles are standard. Finish is metalescent gray.

The caster is available with Baco soft rubber tread wheels for best floor protection or with Atlasite hard wheels that combines floor protection with maximum load carrying capacity. The 5 in. units rate 200 and 300 lb. with the Baco and Atlasite wheels. Rating is 250 and 350 lb. for the 6-in. size. The wheels can be specified with sleeve or roller bearings. In the former case list price is $4.60 and $6.10 each.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8236

flexibility FOR ADAPTABILITY OF DESIGN

standard spacing of mounting bracket holes enables you to meet new control specifications without changes in frame drawings using . . .

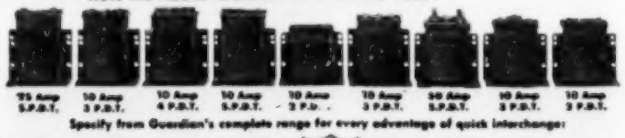
GUARDIAN APPROVED *Interchangeable* AIRCRAFT **RELAYS**

first...with the latest in Aircraft Control!

AIRCRAFT DESIGN ENGINEERS can allow for continuously changing power and performance requirements through the complete *interchangeability* (on the same mounting base) of this new line of Guardian Aircraft Relays. Standard spacing of mounting bracket holes provides extreme flexibility. **It's the way to meet new control specifications without changes in frame drawings!** Units range from single pole, single throw (time delay available) to four pole, double throw contact combinations, with ratings from 10 amperes to 50 amperes at 28 v., D.C. All sealed in accordance with MIL-R-6106. Weights: from 7.5 ounces to 20.8 ounces. Write for Bulletin 1 AR.

200 Ampere Solenoid Contactor

NOTE THE PRECISE ALIGNMENT OF MOUNTING HOLES!

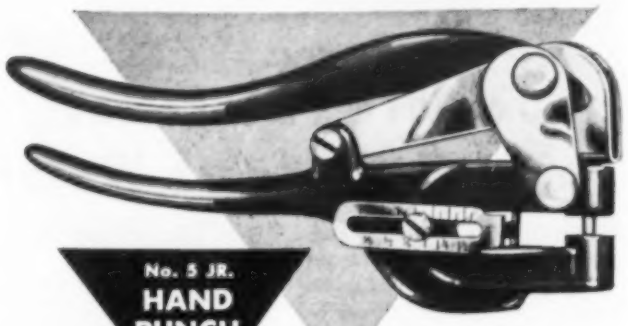


Specify from Guardian's complete range for every advantage of quick interchange:

GUARDIAN ELECTRIC
1620-H W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

If you write maker identify as IEN - 8237

WHITNEY-JENSEN
METAL WORKING TOOLS
FOR 43 YEARS



No. 5 JR. HAND PUNCH

A lightweight tool that has found wide acceptance because it is durable, powerful, easy-to-use. The No. 5 Jr. has an adjustable locating stop clearly graduated to permit quick setting to any throat depth up to 2". Furnished complete with seven punches and dies in strong metal carrying case. Capacity, ¼" hole through 16 ga. mild steel. Overall length, 8¼"; height of gap, ¼"; weight, 2¾ lbs.

Write for our latest catalog.

WHITNEY METAL TOOL CO.
200 FORBES STREET • ROCKFORD, ILLINOIS

If you write maker identify as IEN - 8238

QUICK COUPLERS
CONNECT *and* DISCONNECT

FULL SWIVEL

Hi-Flow LINE

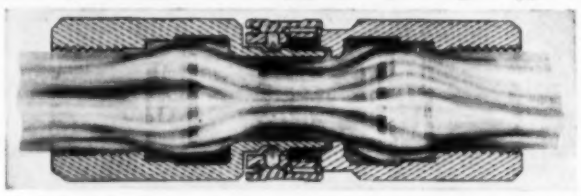
Snap-Tite's

Announcing the NEW

FOR AIR • WATER • OIL • GAS STEAM • CHEMICALS, Etc.

MADE IN SIZES
⅛" - ¼" - ⅜" - ½" - ¾" - 1" - 1¼" - 1½"
2" - 2½" - 3" - 4" - 6" - 8" - AND UP

MADE FROM
STEEL • BRASS • ALUMINUM *and* STAINLESS STEEL



The Greatest Flow in Couplers

Certain territories in the United States and foreign countries available for aggressive manufacturers representatives. Write for details.

SEND FOR NEW TECHNICAL CATALOG NO. VP83

SNAP-TITE INC.
201 TITUSVILLE RD. • UNION CITY, PA.

If you write maker identify as **IEN - 8240**

You Can Finish any Metal

BETTER for LESS

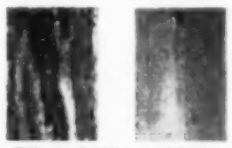
with

VINSYNITE PRETREATMENT

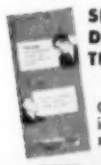
BETTER . . . because Vinsynite combines a chemical pretreatment with a thin film of organic coating. Result is superior adhesion and corrosion-resistance.

FOR LESS . . . because Vinsynite can be applied by ordinary painting methods. No expensive chemical control, heating, water baths or special equipment is required.

Vinsynite works efficiently on any metal. It makes finish coats last longer. Let us send you specific test data and case histories to prove it!



Effect of 500 hrs. ASTM salt spray on oleoresinous paint over bare steel (left); and same paint over Vinsynite (right).



SPECIALTY COATINGS, INC.
Division of
THOMPSON & COMPANY
1000 Allegheny Ave., Oakmont, Pa.

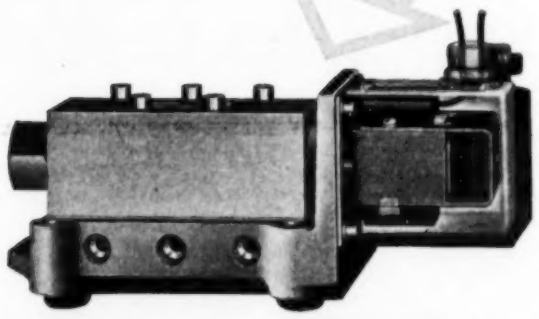
GET THIS FREE BOOKLET. It tells how Vinsynite is solving paint adhesion and corrosion problems for many manufacturers.

Vinsynite
COMBINES PROTECTION AND ECONOMY

If you write maker identify as **IEN - 8241**

Quick-As-Wink
AIR AND HYDRAULIC
Control Valves

FEATURE THIS MONTH

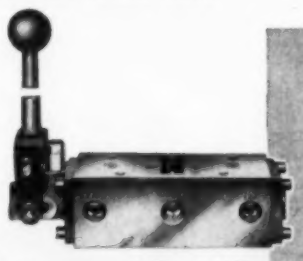


1/8" and 1/4" Single Solenoid Valves

They'll give you up to 300 cycles a minute
For air to 125 psi—vacuum—
or low pressure hydraulic service

● These valves combine the utmost simplicity in design with rugged construction. They will give you millions of cycles of highly satisfactory, efficient, trouble-free service. Small solenoid, with short stroke operates the valve plunger, eliminating levers, links and pins. Low amperage requirement eliminates intermediate relays and simplifies electrical control circuits. Side or bottom pipe connections. Valve body and solenoid are both mounted on an aluminum base and can be removed independently without disturbing the piping. 2, 3, 4 and 5-way actions. *Write for full details today!*

also the following

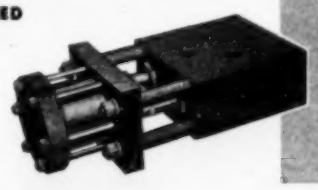


LEVER OPERATED SINGLE PLUNGER VALVES

Two position and three position valves, 3/8" to 1 1/2" sizes; 2-way, 3-way and 4-way actions. Widely used for controlling the operation of single and double acting cylinders or as pilots for operating other valves.

PILOT CYLINDER OPERATED HYDRAULIC VALVES

Two position valves, 1/2" to 4" sizes, for line pressures from 1000 to 5000 psi. Valve is placed close to the work and operated from a central control point with an easy to handle air valve avoiding operator fatigue.



For Fully Descriptive Data Sheets Write

C. B. HUNT & SON, Inc.

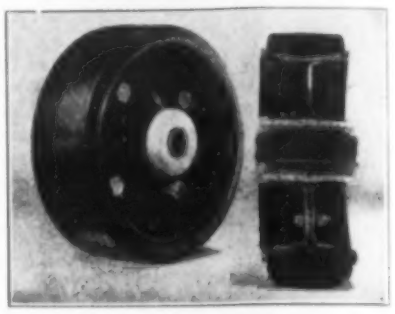
Hand, Foot, Lever, Cam, Pilot, Diaphragm and Solenoid Control Valves

2031 EAST PERSHING STREET • SALEM, OHIO

If you write maker identify as **IEN - 8243**

WHEEL . . Formed steel design with demountable solid rubber tire

Source: RAPIDS-STANDARD CO.
342 Rapistan Bldg., Dept. MB, Grand Rapids 2, Mich.



Ask for Bulletin MB-53

Natural rubber, or neoprene, is molded on a steel rim for application in this new Rapistan Type-MB steel wheel. The two flange units are bolted together so they can be taken apart on the job to place a new tire and its steel rim. The wheel is mounted on Hyatt roller bearings and is fitted with a felt seal to keep grease lubricant in and dirt out. Lubricant is added through a pressure fitting.

Two sizes are 6 and 8 in. in diameter by 1 7/8 in. in tread width and 2 1/8 in. in hub length. Weights are 4 and 7 pounds. Load rating is 400 and 500 pounds. Axle diameter is 1/2, 5/8 or 3/4 in. to meet operating requirements.

If you write maker identify as **IEN - 8244**

PLASTIC . . Phenolic casting resins for fixtures, molds, dies, patterns

Source: MARBLETTE CORP.
37-23 30th St., Long Island City 1, N. Y.

Technical data upon request

Three new resins, 71, 77, 81, have been added to the Marblette line for manufacture of dies and tools, patterns and match plates, molds for low pressure forming and laminating. The first two are cured by heat. The third is cold setting. All three are mixed, in instructed proportions, with an accelerator or hardener prior to pouring.

Resin 71 has storage life of 12 weeks when kept below 70 deg. F. Its pot life is 12 hr. at room temperature after the hardener has been added. It cures in 16 hr. at 125 deg. F. or in 7 hr. at 140 deg. F. It is pure white when fully cured. It will age to a light ivory.

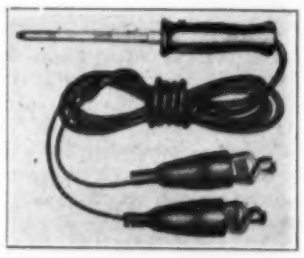
Resin 77 has storage life of 8 to 12 weeks when kept below 70 deg. F. Its pot life is one hr. at room temperature. It cures in 16 hr. at 140 deg. F. or in 24 hr. at 130 deg. F. It is beige color when cured.

Resin 81 has storage life of 8 to 12 weeks below 70 deg. F. It sets overnight at room temperature. Castings can be employed after an additional day or two.

If you write maker identify as **IEN - 8245**

SOLDERING . . Electric iron operates on either 6 or 12 volts dc.

Source: HEXACON ELECTRIC CO.
155 W. Clay Ave., Roselle Park, N. J.



List is $17.60

We want to make certain there is no misunderstanding as the result of our description, IEN-7175-53, of the company's new electric soldering iron. We stated that it will operate on a 6 or 12-volt battery. We did not emphasize the fact that either type battery is satisfactory as the power input. Also we did not state that the iron will come up to melting temperature in 20 seconds, from a cold start, when operating on 12 volts. The quick action is due to location of the heating element in the tip as we reported previously.

If you write maker identify as **IEN - 8246**

PRESS . . Pull type machine, hand hydraulic for work straightening

Source: LEMPCO PRODUCTS INC.
5706 Dunham Road, Bedford, Ohio

Simple, efficient design

Hand pump and pull-down cylinder ride a wheel equipped carriage on the bottom flanges of the structural bed in this new straightening press. The cylinder piston extends upward to terminate in a C-type head to engage work resting on supports, also movable along the bed. A dial indicator, secured to the bed, reads deflection when pull pressure is applied. The press measures 65 in. over the bed in the assembly shown. It is available in other sizes to order.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 8247**

G-E CAPACITORS SAVE $800 Yearly On Power Costs

By improving power factor with General Electric capacitors, the Shaker Square Branch Store of Halle Bros. Company, Cleveland, Ohio saves $800 a year. These power bill savings paid for the capacitors in the first six months of operation . . . and the $800 yearly savings will go on indefinitely.

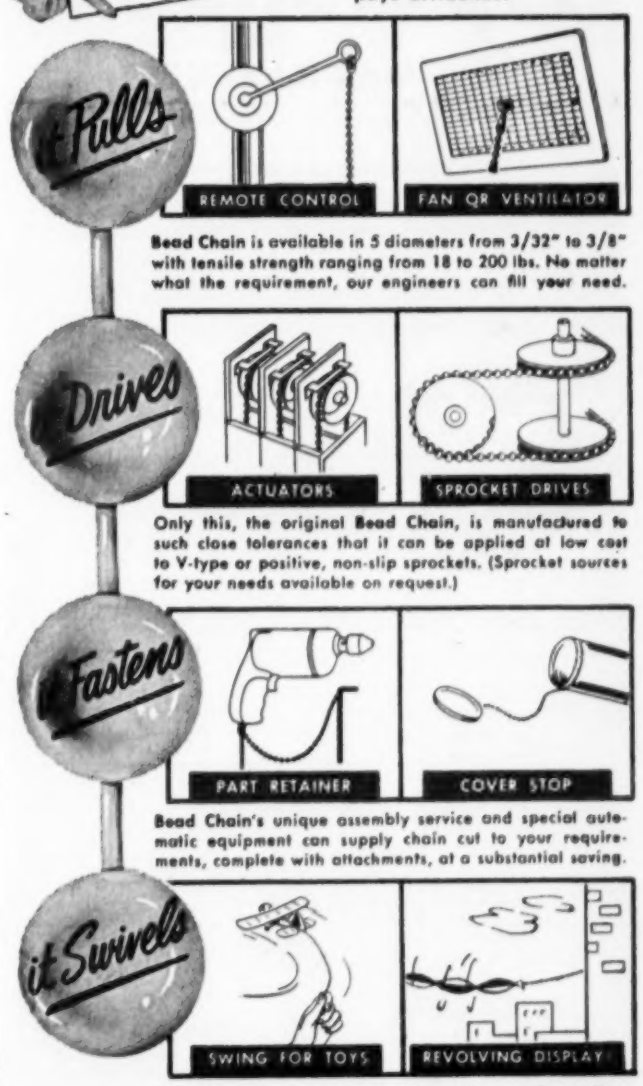
YOU TOO CAN SAVE with G-E capacitors if your power factor is less than unity and if you have a power-factor or kva-demand clause in your contract.

Capacitors also offer other benefits. They often permit you to handle 20 to 30% more load on your existing system. They reduce losses by reducing line current. These added benefits often make capacitors worthwhile even when no power-factor or kva-demand clause is in effect. For more information, see your local G-E apparatus representative, or write for Booklet GEA-5632 to Section 441-104, General Electric Co., Schenectady 5, N. Y.

GENERAL ELECTRIC

If you write maker identify as **IEN - 8248**

There are literally thousands of useful applications of BEAD CHAIN to all types of products, machines and tools! Consider how you may be able to take advantage of its versatility too! It pays dividends!



Bead Chain is available in 5 diameters from 3/32" to 3/8" with tensile strength ranging from 18 to 200 lbs. No matter what the requirement, our engineers can fill your need.

Only this, the original Bead Chain, is manufactured to such close tolerances that it can be applied at low cost to V-type or positive, non-slip sprockets. (Sprocket sources for your needs available on request.)

Bead Chain's unique assembly service and special automatic equipment can supply chain cut to your requirements, complete with attachments, at a substantial saving.

A large variety of couplings and attachments offer endless opportunities to design engineers to adopt Bead Chain without the necessity of special tooling and production.

B®

THE BEAD CHAIN MANUFACTURING CO.
BRIDGEPORT 5, CONN.
Send Me the Bead Chain Catalog.
NAME ..... **TITLE** .....
COMPANY .....
ADDRESS .....
KEY NO. 59

THE BEAD CHAIN MANUFACTURING CO., BRIDGEPORT 5, CONN.
Original and World's Largest Producer of Bead Chain

If you write maker identify as IEN - 8250

You Will Reduce Cost of DRUM and BARREL HANDLING

One man, without help, easily handles containers weighing up to 800 pounds. You save the cost of helpers, and time, when you use a

SABIN BARREL TRUCK

Type "L-3"

Loads are picked up automatically. You simply run the truck up to container, hook on at top, and pull back on handle—that's all.

Third Wheel Feature provides better balance and added safety.

Write for Bulletin No. 48-A

THE SABIN MACHINE CO.
6540 Carnegie Ave., Cleveland 3, O.

If you write maker identify as IEN - 8251

NOW— THE LOWEST COST Dye Penetrant Inspection

Spotcheck by MAGNAFLUX

Ends Guesswork Arguments!

Locates and marks cracks — seams — porosity — laps, etc. — when open to the surface . . . Use it on metals — carbides — plastics — ceramics or practically any other non-porous solid.

Brush—Dip—or Spray

Typical casting crack as revealed by Spotcheck in sampling or maintenance inspection.

CHECK THESE LOW PRICES

Quantity	Cleaner		Penetrant		Developer	
	Case Lots	One Can	Case Lots	One Can	Case Lots	One Can
12 oz. Pressure Can	(12 cans) $2.00 per can	$4.50 Each	(12 cans) $2.50 per can	$4.50 Each	—	—
Pint Cans	—	—	(12 cans) $2.25 per can	$4.00 Each	(12 cans) $2.00 per can	$4.00 Each
Quart Cans	—	—	(5 cans) $4.00 per can	$6.00 Each	(5 cans) $3.00 per can	$5.00 Each
1-Gal. Cans	(10 gallons) $2.50 per gal.	$3.00 each	(10 gallons) $14.00 per gal.	$15.00 each	(10 gal.) $8.50 per gal.	$9.00 each
5-Gal. Cans	(50 gallons or more) $2.00 per gal.	$2.50 per gal.	(50 gallons or more) $10.00 per gal.	$13.00 per gal	(50 gal. or more) $7.00 per gal.	$7.50 per gal

Also complete kits for HANDY SPRAY APPLICATION $35.00 PLUS $1.00 shipping and handling

Eight assorted cans of Cleaner, Penetrant and Developer, accessories, instruction book and carrying case.

All prices f.o.b. Chicago, Illinois. Spotcheck Inspection requires application of Cleaner, Penetrant and Developer. Order quantity desired of each on your company purchase order.

FOR COMPLETE KIT—ORDER NOW

MAGNAFLUX CORPORATION
7314 W. Lawrence Ave., Chicago 31, Ill.

Please send.....Type SK-1 SPOTCHECK KITS at $35.00 each, plus $1.00 each, packing and shipping cost.

☐ CHECK ENCLOSED. Amount: $.....
☐ Send on our P. O. Number.....
☐ Send only FREE illustrated bulletin, now.

Name.....Title.....
Company.....
Address.....
City.....Zone.....State.....

Prices subject to applicable state or local sales tax.

If you write maker identify as IEN - 8253

CASTER . . For industrial trailers swivels freely, rates 1½ ton load

Source: LANSING CO.
600 N. Cedar St., Lansing 12, Mich.

No king pin

New Dean caster, named for Otis Dean, the company executive who designed it, is made with a ductile iron top plate and housing and a forged steel wheel. It features ball bearing swivel construction in which the swivel is centered by the bearing and retained by a ring that bolts in place through the plate. No king pin is required. A seal surrounds the bearing to prevent entrance of moisture and to act as a grease retainer.

The steel wheel is mounted on Timken roller bearings. It measures 5¾ by 1⅞ in. and has a 2¾-in. hub. The axle bolt is ¾ by 5⅛ inches. Weight is 21 pounds. Overall height is 7¾ inches. Two designs are duplicates except for the top plate which measures 5 by 6½ in. in one case and 5¾ by 6¾ in. in the other. Designations are Catalog 603-S and 603-L.

If you write maker identify as IEN - 8254

BUILDING . . Translucent sheet for windows, skylights, partitions

Source: INTERNATIONAL GLASS CORP.
8713-17 W. 3rd St., Los Angeles 48, Calif.

The texture is uniform

Interglass is a new combination of translucent plastic resin and three parallel fiber glass mats, laid lengthwise and crosswise, to provide resistance to stress in all directions. The glass fiber mats are made by the company as well as the completed polyester sheet. Glass content averages 50 per cent of the total.

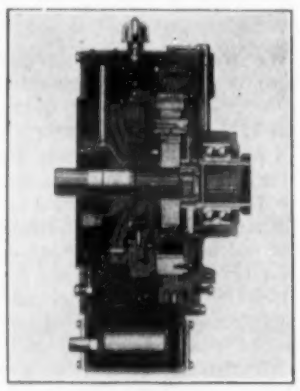
Two types are Standard at 0.06 in. in thickness and Light at 0.04 inch. The Standard material is available in corrugated and flat construction, the former in 8 and 10-ft. lengths and 26-in. width, the latter in 8-ft. length and 34-in. width. The Light material is made in one 8-ft. length and one 26-in. width in corrugated design.

Weights are 6 and 8 oz. per square foot. Colors are aquamarine, green, coral, and yellow. Corrugations are Standard at 2⅝-in. pitch. Packaging is 20 sheets to a carton in any one color and one size. Retail list is 85 cents for the Standard and 75 cents for the Light material per square foot.

If you write maker identify as IEN - 8255

DRIVE . . Two speed transmission to assist hydraulic torque converter

Source: TWIN DISC CLUTCH CO.
1308-12 Preston St., Rockford, Ill.



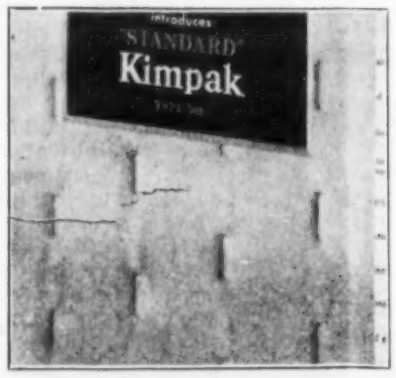
No gear shifting

Planetary gearing, two hydraulically actuated clutches and a control valve make up the assembly of this new Model T-302 transmission. The valve can be turned to engage one of the clutches for direct drive or the second clutch for drive at reduced output speed through the planetary gears. In the latter case, the ratio is 2.69 or 3.07 to 1, depending on the chosen assembly. The valve also selects a neutral or idling position. The transmission is designed to match the Twin-Disc three-stage hydraulic torque converter.

If you write maker identify as IEN - 8256

PACKAGING . . Sheet material designed to protect fragile products

Source: KIMBERLY-CLARK CORP.
Kimberly St., Neenah, Wis.



Ask for technical data

Type 301, Standard Kimpak, natural tan color, is a new protective interior packaging material for fragile and also for frangible products. It can be ordered plain or embossed and is supplied in rolls or sheets measuring 2 to 60 in. in width. It is clean, soft, non-staining, free from any abrasive content. Railroad and government packaging specifications are met by the material for its intended service.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8257

BRUNING ELECTRIC ERASER

Saves hours of work . . . Protects valuable drawings

ERASER CAN'T FLY OUT . . . valuable drawings are safe with a BRUNING Electric Eraser. Exclusive *7-inch* eraser feeds through hollow shaft — can't fly out and let ferrule gouge paper.

SAVES TIME . . . adds extra hours of working time by eliminating tiresome, finger-cramping manual erasing.

RUNS COOL AND QUIET . . . permanently lubricated bearings mean no overheating in steady operation, are mounted in rubber for vibration-free performance. Only one moving part.

EASY TO USE . . . lightweight aluminum housing fits fingers like a pencil. Eraser is extended or replaced in seconds.

Phone or write Bruning — there's an office near you—for more facts and figures on how to save time and tempers with Bruning Electric Eraser. CHARLES BRUNING COMPANY, Dept. R73, 4700 Montrose Avenue, Chicago 41, Illinois. A-3-3

BRUNING
Everything for the Engineer and Draftsman

If you write maker identify as IEN - 8258

SHAWMUT'S NEW FORM 208

Amp-trap®

SAVES BOTH CIRCUIT AND CUSTOMER
(FOR 120/208 VOLT AC OR 125/250 VOLT DC NETWORKS)

POSITIVE PROTECTION AGAINST SUPERCURRENTS
Low voltage AC and DC networks give large utilities and their customers greater continuity of service and easy expansion of their systems. The only drawback to this type of network is the constant threat of danger from heavy short-circuit or fault currents. Shawmut's new FORM 208 Amp-trap eliminates this danger from these circuits. It prevents the destructive build-up of heavy fault currents so dangerous to office buildings, stores, hospitals, theatres, schools, etc.

USES & SPECIFICATIONS
Amp-trap FORM 208 is made for Entrance Switch Service, Underground Network Conductors, Distribution & Panelboards and other applications. It is built in Ampere ratings of 1000, 1200, 1600, 2000, 2500, 3000, 4000 and 5000 for Entrance Switch Service and for cable sizes from 4/0 to 1000 MCM. The watt (power) loss is probably lower than for *any other over-current protective device.* Hence it may safely be installed in vaults and steel enclosures and subjected to long continued loads.

LOW IN COST—EASY TO INSTALL
FORM 208 Amp-traps clear fault currents long before they can burn or wreck bus bars and switch gear. Yet they are small in size, low in cost and easy to apply. Write today and find out about FORM 208.

208 AMP-TRAP — *"Awake At The Switch"*

THE CHASE-SHAWMUT CO.
386 MERRIMAC STREET • NEWBURYPORT, MASSACHUSETTS
Est. 1893

If you write maker identify as IEN - 8259

NO MORE SLIPS!

NOW make metal, concrete, and wood floors, staircases, areas around machinery and loading platforms SLIP-PROOF — WET OR DRY.

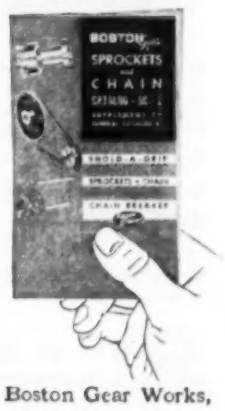
R-MIR-DEK NON-SLIP COATING is the only lightweight safety floor coating that is Fire retardant, Anti-corrosive, Easily applied, and Oil, Grease, Alkali, and Acid-resistant. Compounded of durable phenolic resins and polymerized oils with everlasting aluminum oxide granules added.

FREE 2-color R-Mir-Dek brochure. Write to Department IEN-7

MIRACLE ADHESIVES CORP.
214 E. 53rd STREET, NEW YORK 22, N. Y

If you write maker identify as IEN - 8260

Get this *NEW* SPROCKET CATALOG SUPPLEMENT SC-2



Complete buying information on Standard Sprockets and on new line of SHOLD-A-GRIP Interchangeable Tapered Bushings and Sprockets . . . also Chain, and new Chain Breaking Tool.

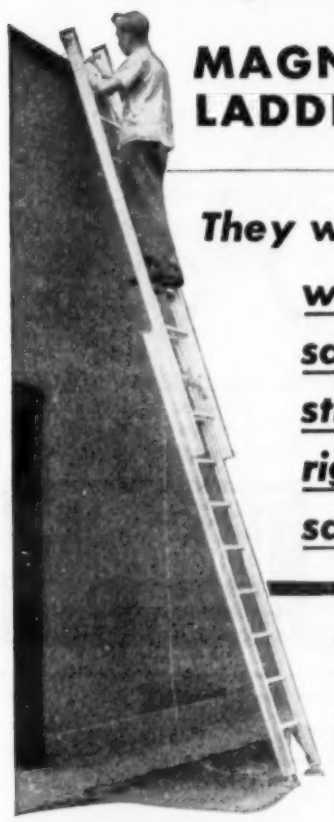
ASK YOUR **BOSTON gear** DISTRIBUTOR

for the new Sprocket Catalog, or write Boston Gear Works, 63 Hayward St., Quincy 71, Mass.

If you write maker identify as IEN - 8261

Make Work Safer . . . with light, STRONG

MAGNESIUM LADDERS



They weigh less . . . with no sacrifice in strength, rigidity or safety!

SINGLE LADDERS

Sizes	Approx. Weight
4'	4 lbs.
6'	6 lbs.
8'	8 lbs.
10'	10 lbs.
12'	15 lbs.
14'	17 lbs.
16'	20 lbs.
18'	22 lbs.
20'	25 lbs.

EXTENSION LADDERS

Sizes	Approx. Weight
16'	21 lbs.
18'	24 lbs.
20'	26 lbs.
22'	29 lbs.
24'	32 lbs.
26'	35 lbs.
28'	46 lbs.
30'	50 lbs.
32'	54 lbs.
36'	60 lbs.
40'	66 lbs.

STEP LADDERS

Sizes	Approx. Weight
3'	7 lbs.
4'	8½ lbs.
5'	10 lbs.
6'	11½ lbs.
8'	15 lbs.
10'	19 lbs.

These new-type magnesium ladders are easier to handle, speed work and promote greater safety. They are made of extruded magnesium and meet every specification for safety and quality. Available in three types—single, step and extension.

Write for illustrated folder, Bulletin L-70.

WHATEVER THE NEED . . . When it comes to Ladders and Scaffolding—come to P. S.

GOLD MEDAL LADDERS SCAFFOLDING — for Greater Safety . . . Efficiency . . . Economy

THE PATENT SCAFFOLDING CO., Inc.

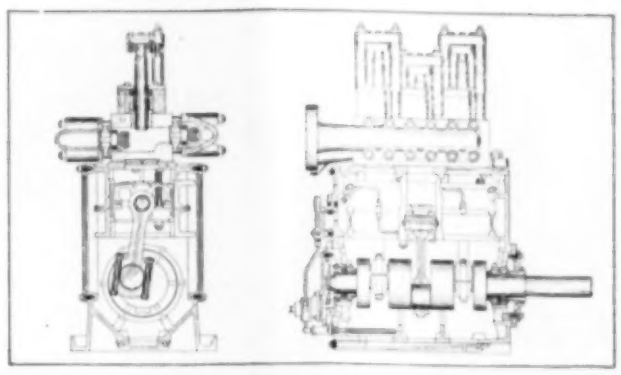
38-21 12th Street, Dept. IEN, Long Island City 1, N. Y.

Branches in All Principal Cities

If you write maker identify as IEN - 8263

PUMP . . Triplex hydraulic 4 in. stroke, plungers to 2¾ in.

Source: AJAX IRON WORKS
252 Castor St., Corry, Pa.



Illustrated details in Bulletin 531

Oil, brine, acids and alkalis, solvents, waste fluids can be handled by this new Series TP-4000 triplex pump. It is available with a choice of five plunger diameters, the smallest measuring 1¾ in. and the largest 2¾ inches. Maximum pressure is 2,050 lb. per sq. in. for the smallest diameter, 825 lb. for the largest.

Fluid rating is 12½ to about 31 gpm., based on 100 rpm. Hydraulic output rating is 60 hp. based on 88 per cent mechanical efficiency and 100 per cent volumetric efficiency. Steel, iron, bronze can be specified in the fluid end. The plungers are standard construction in ceramic. Recommended maximum continuous operation is at 400 rpm.

The crank shaft operates in two double row tapered roller bearings in splash lubricated design. Force feed lubrication is employed for the cross head guides, the cross head pin and the crank pin bearings, by a rotary gear pump connected to the crank shaft. Suction connection measures 4 inches. Discharge connection is 3 inches. Overall dimensions are about 4½ by 2 by 4½ feet.

If you write maker identify as IEN - 8264

SWITCH . . Explosion proof design for precision limit duty on machines

Source: MICRO DIVISION
30 E. Spring St., Freeport, Ill.

Compact

Type IMLI-EI is new explosion proof assembly of the company's snap acting precision switch for use on machinery and equipment in explosive gas or vapor-air atmospheres. The assembly is listed by Underwriters' Laboratories Inc., as suitable for hazardous locations under Class I, Groups C and D. Contact rating is 20 amp. on 110-volt ac., ½ amp. on 110-volt dc.

The housing is die cast aluminum. A ⅛-in. porous bronze plate is fitted over the enclosure opening to vent the switch cavity and extinguish any flame. The roller arm assembly can be reversed and is adjustable in the field to operate clockwise, counter-clockwise or in both directions. It can be set and locked at any 0.4-deg. interval through 360 degrees. Size is 2¼ by about 2 by 6 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8265

you save 50% in TANK HEATING and COOLING with PLATECOIL

(REPLACE PIPE COILS)

- ★ **You SAVE 50% in tank SPACE**
- ★ **You SAVE up to 50% in initial COST**
- ★ **You have 50% LESS WEIGHT to handle**
- ★ **You SAVE 50% in maintenance LABOR as plates are changed from outside the tank without dumping solution**

. . . besides all these you get faster heating or cooling. Take advantage of the engineering assistance offered by Kold-Hold to help you with your heat transfer problems.

Send for complete technical manual and descriptive Bulletin No. P56

PLATECOIL Division **Tranter Mfg. Inc.** LANSING 4, MICHIGAN

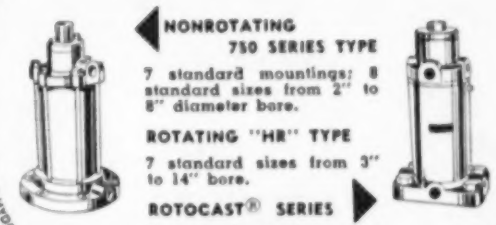
If you write maker identify as IEN - 8266

LOGAN AIR AND HYDRAULIC POWER

SPEEDS • COORDINATES • REFINES PRODUCTION IN OVER 10,000 INDUSTRIAL PLANTS

AIR CONTROL VALVES • AIR CYLINDERS • AIR-DRAULIC CYLINDERS • AIR AND HYDRAULIC PRESSES • COLLET GRIP TUBE FITTINGS • AIR CHUCKS • HYDRAULIC CONTROL VALVES • HYDRAULIC CYLINDERS • HYDRAULIC POWER UNITS • SURE-FLOW COOLANT PUMPS

Logan HYDRAULIC CYLINDERS



NONROTATING 750 SERIES TYPE
7 standard mountings; 8 standard sizes from 2" to 8" diameter bore.

ROTATING "HR" TYPE
7 standard sizes from 3" to 14" bore.

ROTOCAST® SERIES
7 standard mountings, sizes 2" to 8" bore, strokes up to 8' as standard.

SAVES TIME — Logan AIR AND HYDRAULIC EQUIPMENT — EXPORT-MOTOR

LOGAN MANUFACTURES 6,975 STANDARD CATALOGED ITEMS • CATALOG ON REQUEST

Consult Logan for your Special Heavy-Duty, Mill-Type Cylinder requirements.

LOGANSPORT MACHINE CO., INC.
813 Center Avenue Logansport, Indiana

If you write maker identify as IEN - 8267

MAKE GAGES LAST LONGER

Offered as a service to our thousands of satisfied customers and friends.*

✗ DON'T

- ✗ Don't force gage into or over part being checked.
- ✗ Don't lay gages on metal benches or dirty surfaces.
- ✗ Don't clean gages in water, kerosene or carbon tetrachloride—all cause rusting.
- ✗ Don't spin parts on or off gages. This accelerates wear.
- ✗ Don't lay gages in sunshine — expansion causes errors.
- ✗ Don't use gages that fit loosely. Know the "feel" of proper gaging.
- ✗ Don't use gages that show visible burrs, nicks or irregularities.

DO

- ✔ Learn how to hold and use gages properly. Fit must be snug and smooth. Make wooden gage racks covered with oiled felt for clean gages.
- ✔ Roll or twist gages into work slowly to get proper feel.
- ✔ Check gage against master gage before use, at least once each shift and before returning to tool crib.
- ✔ *Include gaging expense as part of manufacturing budget. Quality product companies now do this.*

*8¼ x 11" reprints of this ad in three colors on heavy stock are available at no charge for posting in your factory.

. . . AND insist on all of these quality features when you buy new gages:

Reversible Plugs . . . enable you to cut off worn tips at each end—use new section exposed for six to eight times more wear life.

Entire Plug Surface Usable—straight untapered pieces provide uniform gaging surface over entire length—finish to 1.5 microinches RMS or less for maximum amount of wear life.

Pin-Vise Aluminum Handle—positive locking; plugs can't slip. Easily loosened for replacing or reversing plug. Plug length adjustable for different hole depths.

Easy Recognition—GO in green finish; NO GO red.

Special Hardening—plugs hardened throughout . . . enables you to grind plugs down to next lowest size . . . gives greater economy.

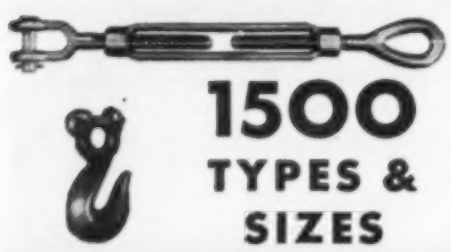
We'd like to discuss your gage needs and have your gage orders. Our engineering representatives are located in all principal cities. Write or telephone us today.

SIZE CONTROL COMPANY
2500 W. Washington Blvd., Chicago 12, Ill. MOnroe 6-6710
Division of American Gage & Machine Company

SIMPSON ELECTRIC COMPANY
5200 W. Kinzie St., Chicago 44, Ill. COlumbus 1-1221

WALSH PRESS & DIE CO.
4709 W. Kinzie St., Chicago 44, Ill. EStebrook 8-6700

If you write maker identify as IEN - 8269



1500 TYPES & SIZES

LAUGHLIN

Drop Forged WIRE ROPE & CHAIN FITTINGS

Free Catalog No. 150 Lists Them All

THE THOMAS LAUGHLIN CO.
71 FORE ST., PORTLAND, ME.

FOR SAFETY'S SAKE — SAY LAUGHLIN

If you write maker identify as IEN - 8270

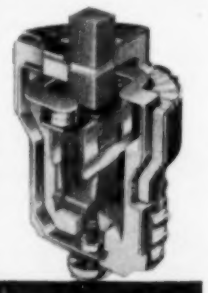
Modernize with

MINI-BREAKER®

. . . the amazing new Permanent Circuit Protector that fits like a fuse in standard Edison base fuse sockets!

Time was when converting "one shot" fuse-protected circuits to a modern permanent type installation was a costly, complicated job. But not so today! Now anyone can do it in a matter of seconds simply by installing amazing new MINI-BREAKERS as *direct replacements* for expendable Edison base fuses . . . and right in existing fuse boxes, too! No additional equipment to buy, no special wiring required, no extra costs of any kind!

NEW SAFETY! NEW CONVENIENCE! MINI-BREAKERS give you positive, pre-tested protection against electrical fire hazards. They trip instantly on "shorts", but have a built-in time lag to handle temporary starting loads and line surges. 100% trip-free, too. Yet, as soon as the circuit is safe again, all you have to do to restore electrical service is press in and release the shock-proof reset button!



LISTED BY U.L! MINI-BREAKER is a precision-built, inspected "Circuit Protector" . . . the only device of its kind listed by Underwriters' Laboratories, Inc.! Available in 15, 20, and 30 ampere ratings, for A.C. service only, to 125 volt maximum.

See your Electrical Wholesaler-Distributor or send for complete information today

MECHANICAL PRODUCTS, INC.
1824 River Street • Jackson, Michigan

Please rush me full details on new MINI-BREAKER today!

NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

If you write maker identify as IEN - 8272

EXPANDING . . Roll type tool for tubes, has electronic drive control

Source: AIRETOOL MFG. CO.
302 S. Center St., Springfield, Ohio

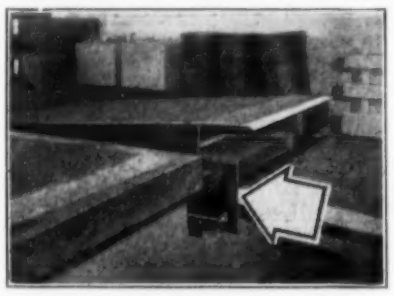
No skill required

New application, for the company's electronically controlled tube expander, starts with the expander in retracted position inserted into the tube to a point where expanding is to start. At this point rotation is started and the expanding mechanism moves outward radially until predetermined pressure has been applied. It then moves toward the outer end of the tube while maintaining the predetermined expansion. The resulting action rolls the tube into the tube sheet causing tube elongation outward rather than inward. This application is suited particularly to roll tubes into thick tube sheets or steam drums for high pressure heat exchangers and boilers.

If you write maker identify as IEN - 8273

ELEVATOR . . Truck operated ramp raises and lowers in shipping platform

Source: DOCKBOARDS INC.
314-18 E. Silver Spring Drive, Milwaukee 11, Wis.



Hi-Lo Bulletin

Hi-Lo Dockboard is a new weight counterbalanced elevating ramp for installation in a shipping platform. It stands normally in raised position with its operating arm extending out horizontally from the face of the platform. A truck is backed into this arm and, as it moves it back, the ramp comes down to rest on the truck bed. When the truck is driven away, the ramp returns to "up" position ready for the next truck.

The assembly is self-supporting and ready for operation. It measures 6 ft. in width and 6, 8 or 10 ft. in length. Two capacities are 5 and 10 ton. Vertical movement is through 24 inches. The ramp surface is Algrip safety tread steel or other standard safety tread or smooth plate or special abrasive coating, as specified.

Identify as IEN - 8274

Reamer Selector titles a little pocket card that enables you to make quick selection of the correct size of reamer for a hole of given diameter. Range is between 0.0400 and 0.5010 in. in 143 steps. The Lavelle & Ide catalog number of each reamer is shown also. This company, at Chicopee, Mass., will send you the card without charge.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8275

1 man handles Sheet Steel Faster, Easier with a C-F LIFTER

C-F Lifters, under one man operation, pick up, carry and unload more sheet steel tonnage per hour than any other method – and at lower cost per ton. Wide carrying angles hold sheets securely – won't damage high grade sheets; tong action insures safe carrying; fast opening and closing adjustments of Lifter jaws permit shifting from one size pack to another in seconds. C-F Lifters are made in standard or semi-special models to handle from 2 to 60 tons.

Write for Bulletin SL-28 for specific examples of C-F Lifter operation and economy.

CULLEN-FRIESTEDT CO.
1310 South Kilbourn Avenue • Chicago 23, Illinois

If you write maker identify as IEN - 8276

use Hanna Valves for exacting CONTROL

SIMPLE—LOW COST Unitite Valves

Give You Finer Control and Years of Dependable, Trouble-Free Service!

- No packings to wear out.
- Lumen bronze disc.
- Machine and hand lapped.
- Pressure greasing.
- Pipe ports in one plane.
- Can be disassembled without disturbing piping.
- Synthetic rubber stem collar seals out dust.

Hanna Unitite Valves have been operated over ten million times without showing appreciable wear or loss of efficiency. They are packless, easy to install, easy to maintain, available in standard, manifold or column mounting styles for 3-way or 4-way operation. Write for complete Valve Catalog today!

Hanna Engineering Works
HYDRAULIC AND PNEUMATIC EQUIPMENT · CYLINDERS · VALVES · RIVETERS
1748 ELSTON AVENUE • CHICAGO 22, ILLINOIS

If you write maker identify as IEN - 8277

VARNISH...and "Folded-and-Formed Heating Elements

It is quite probable that, in the manufacture of your favorite varnish, part of the process requires equipment heated with "F-and-F" Electric Heating Elements . . . unequalled in efficiency, economy and adaptability. This is but one of hundreds of diversified "F-and-F" applications.

"Folded-and-Formed" Heating Elements are made in Standard and Custombuilt Racks which can be grouped to provide any desired KW.

What is your heating problem? "Folded-and-Formed" may offer the right solution.

TREN INC
Electrically Heated Industrial Equipment
247 LEVERINGTON AVE PHILA 27 PA

If you write maker identify as IEN - 8278

For Accurate TEMPERATURE RECORDS at MODERATE COST

RANGES AVAILABLE

Temperature Range	One Rotation of Chart
−30° to +120°F	7 Days
−30° to +120°F	24 Hours
−20° to + 40°F	24 Hours
−10° to + 50°F	7 Days
−10° to + 50°F	24 Hours
30° to 60°F	24 Hours
40° to 100°F	7 Days
40° to 100°F	24 Hours
60° to 90°F	24 Hours
60° to 90°F	8 Hours
70° to 130°F	24 Hours
70° to 130°F	8 Hours
100° to 160°F	4 Hours
−25° to + 10°C	24 Hours
5° to 40°C	24 Hours

Use TEMPSCRIBE Recorders

The TEMPSCRIBE self-registering Recording Thermometer meets a long-felt need for a moderately priced recorder for general purpose applications where a graphic record of temperature in surrounding air is required. The record—written on an easy-to-read chart, 4" in diameter, with graduations spaced uniformly over full range—is indispensable wherever knowledge is desired if temperature goes above or below any given point. TEMPSCRIBE is the only recorder made with pen and actuating element in door, which, when opened, permits a clear view of the complete chart, and easy chart replacement without danger of damaging pen arm or accidentally marking chart.

Write for Bulletin 704

BACHARACH INDUSTRIAL INSTRUMENT CO.
7301 Penn Avenue • Pittsburgh 8, Pa.

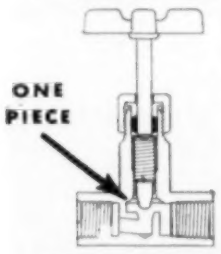
If you write maker identify as IEN - 8279

New MARSH Needle Valves

MAXIMUM WORKING PRESSURE 10,000 PSI

. . . for finer regulation of water, oil or gas

First needle valve to combine all the characteristics called for in modern industry. Embodies sturdiest basic construction—machined from solid bar stock—suitable for pressures to 10,000 psi and equally efficient in lower range. Note stem guide fused to body by new "Conoweld" process, eliminating faults of conventional two-piece valves. Stem 416 stainless steel. Stem threads fine pitch for strength and micrometer regulation. Body electro-zinc plated. Sizes ⅛" to 1", globe and angle patterns.



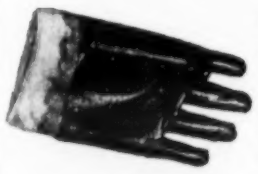
Ask for new Needle Valve Catalog

MARSH INSTRUMENT CO. *Sales affiliate of Jas. P. Marsh Corporation*
Dept. A, Skokie, Ill.

If you write maker identify as IEN - 8280

DON'T THROW AWAY WORN OUT PLASTIC COATED GLOVES

Glovco's New "Over-kote" plan of Cleaning, Repairing and Recoating Makes Them Safe and Good as New — at a fraction the cost of new!



This is a new service that will save money for you. Plants are saving 90% of the plastic coated gloves they once threw away. We guarantee satisfaction.

DON'T SCRAP LEATHER GLOVES

Glovco reclaims worn, torn, dirty leather faced gloves, welders' gloves, mitts, hand pads, aprons and other leather protective apparel.

DON'T SCRAP FABRIC GLOVES

Glovco reclaims worn, torn, dirty fabric hot mill, terry cloth, asbestos gloves, sleeves, drop cloths, etc. Send sample for trial demonstration.

Now Used in THOUSANDS of Plants

U. S. Industrial Glove Corp.
9350 Roselawn Ave.
Detroit 4, Mich.

Please forward complete Glovco data and name of nearest service outlet.

Company_____

Address_____

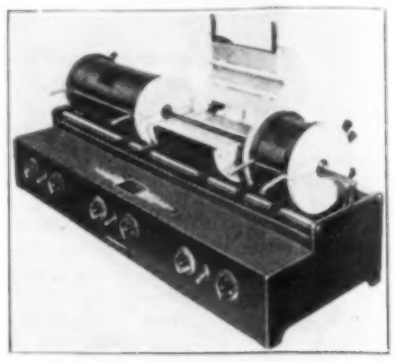
City & State_____

Per_____

If you write maker identify as IEN - 8282

TESTING . . Combustion tube furnace for laboratory carbon determinations

Source: HEVI DUTY ELECTRIC CO.
4210-14 W. Highland Blvd., Milwaukee 1, Wis.



Ask for Bulletin LAB-735R

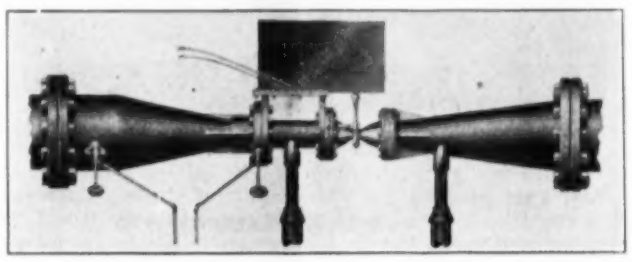
Separate sections, three in number, are assembled to ride on guides mounted on the base of this new Type 123-T organic combusition furnace. The guides hold the sections in correct alignment and permit them to be moved independently of each other. The upper half of each section is hinged to the lower half so it can be opened for observation. The furnace is designed for operation to 1,830 deg. F.

Each section is connected to a tap changing transformer with fine and coarse control switches to provide a total of 36 steps of adjustment. These switches with "on-off" toggle units are located on the base panel to leave the top clear to serve as a shelf. Connection is to a 110 or 220-volt ac. input for the two heating elements in each section. The elements are interchangeable and can be replaced by the operator. Bench space measures 12½ by 36 inches. Inside diameter is 1¼ inches to take a 20 mm. combustion tube. Inside lengths of the three sections are 4, 8 and 12 inches.

If you write maker identify as IEN - 8283

CONTROL . . Venturi assembly regulates flow of sludge type liquids

Source: SIMPLEX VALVE & METER CO.
6717 Upland St., Philadelphia 42, Pa.



Flow rate determines opening

Sludge Controller is a new venturi assembly for application in an 8-in. pipe. It includes a rate setting meter, not shown in the illustration, and a flexible rubber throat section with a mechanism that can squeeze this section to any position between open and closed. The unit applies in a pipe line to regulate the flow of heavy viscous corrosive or non-corrosive liquids.

Differential pressure, in the venturi, is transmitted to the rate setting meter. It, in turn, actuates the motor driven clamping device to adjust the throat area. The flexible rubber section is free from pockets or restrictions which could trap particles of the material being handled. The action through the throat is essentially self-scouring.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8284

International Stapling Machine saves $20,000 a year for UARCO

Uarco, Inc., Chicago manufacturer of business forms reports a savings of more than $1600 a month with an International Retractable Anvil stapling machine.

The stapler, a double-headed, air operated model priced at only $3400, is used to close filled cartons from the outside, top and bottom simultaneously. Daily volume is 2,500 cartons of varying sizes . . . in a 12 hour period.

International Stapling Machines will save you as much as 50% on shipping costs . . . write for additional details.

INTERNATIONAL STAPLING MACHINES
INTERNATIONAL STAPLE & MACHINE COMPANY
802 East Herrin Street, Herrin, Illinois

If you write maker identify as IEN - 8285

Roll a NEW Floor OVER the old with

Abolish downtime due to floor failures. Just roll ***Redi-Roll*** over the old floor to a compacted ¼" thickness and USE AT ONCE. It's spark-proof! It's tough! It's industry's best floor buy. Write for details now . . . today!

ROCK-TRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7440-7450 North St. Louis Avenue • Skokie, Illinois
In Canada: Rock-Tred Corporation (Canada) Limited, Toronto 5

If you write maker identify as IEN - 8286

PRATER ROTARY AIRLOCK FEEDER

FEEDS powdered and granular products into conveying line—quickly and accurately!
STOPS air leakage at the discharge of dust collectors or other pneumatic equipment!
PRE-DETERMINES rate of feeding material into mixers, blenders, hoppers, etc.
RECOMMENDED in the processing of: Ball Clay, China Clay, Diatomaceous Earth, Kaolin, Grains and Feeds, Graphite, Limestone, Whey Powder, Calcium Carbonate, Sulphur, Fullers Earth, Ochre, Volcanic Ash, Bronze Powder, Bauxite, Carbon Black, Salt, Barium Carbonate, Marl, Sugar, Cocoa, Gypsum, Silica, Manganese Sulphate, Phenolic Molding Compound.

Send for new illustrated bulletin

PRATER **PRATER PULVERIZER COMPANY**
1536 So. 55th Court • Chicago 50, Ill.

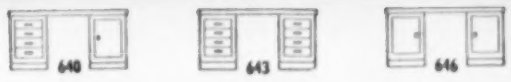
If you write maker identify as IEN - 8287

"640" series

HALLOWELL UNIT WORK BENCHES

Multiple unit design enables you to *custom build* these HALLOWELL benches to fit your requirements. Standardized construction permits individual or continuous installations . . . provides interchangeability with other HALLOWELL benches of similar dimensions. Stocked and sold by leading industrial distributors. Write for literature. SPS, Jenkintown 14, Pa.

3 basic models for your convenience



Our Fiftieth Year : A START FOR THE FUTURE

HALLOWELL SHOP EQUIPMENT DIVISION

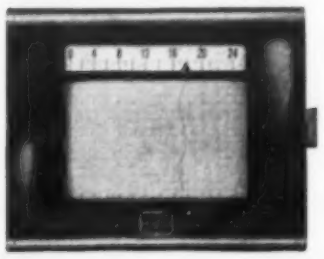
SPS
JENKINTOWN PENNSYLVANIA

If you write maker identify as IEN - 8288

....WHAT'S NEW AT BRISTOL....

CONTINUOUS STANDARDIZATION with no dry cells

. . . in Bristol Electronic Dynamaster Potentiometers and Pyrometers



- **CONTINUOUS STANDARDIZATION** eliminates need for dry cells —supplies voltage that is continuously compared with standard cell.
- **CONTINUOUS OPERATION—NO TIME OUT.** With continuous standardization, the potentiometer is free to continuously measure, record, and control. No time out or interruption is required for periodic standardization.
- **NO STANDARDIZING MECHANISM.** Continuous standardization is taken care of electrically. There is no standardizing mechanism.

For the complete story on the modern Bristol Dynamaster, write for free 35-page booklet P1245. The Bristol Company, 107 Bristol Road, Waterbury 20, Conn. 3.19

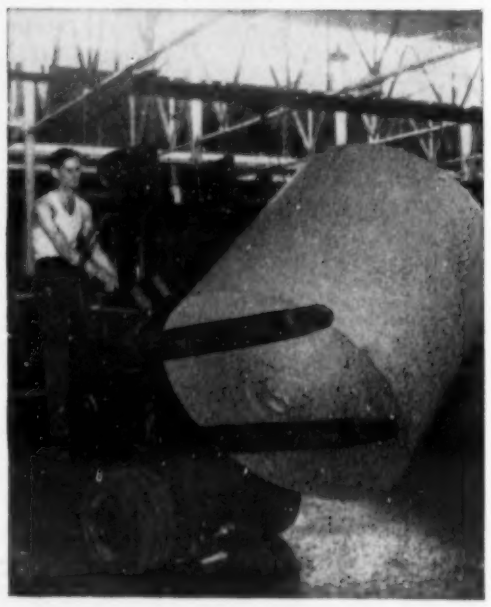
BRISTOL *THE DEPENDABLE GUIDEPOST OF INDUSTRY*

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

If you write maker identify as IEN - 8289

B.F.Goodrich

TIRE AND WHEEL TW **ANALYSIS man puts an end to unnecessary industrial tire cutting, chipping**



Save as much as 50% on tire costs

Debris-strewn floors, sharp projections along trucking aisles or on the trucks themselves, overloading and collisions all can cut and chip an industrial tire. Or tire failure may be caused by the tire being used on a job for which it was never designed.

The B. F. Goodrich Tire and Wheel Analysis man can put an end to unnecessary tire troubles, can save you up to 50% on industrial tire costs. He knows which tire is right for any given set of operating conditions—solid, semi-pneumatic or pneumatic—which tread design and compound is best to use. Without obligation, he will put his training to work on your problems, recommend the right tires for you to use, give you maintenance tips that can cut costs as much as 20%.

The TW Analysis man's advice is impartial, for B. F. Goodrich makes, and BFG retailers sell, a complete line of industrial tires. Use the tires he recommends and save yourself unnecesasry tire expense. Get increased, maybe even doubled, tire life.

To find out more about this free B. F. Goodrich Tire and Wheel Analysis Plan, send in the coupon or call your BFG retailer. A special TW Analysis Plan is available for manufacturers of industrial handling equipment.

Specify B. F. Goodrich tires when ordering new equipment

The B. F. Goodrich Co.
Department TW-161, Akron 18, Ohio.

Please send me:

☐ *Additional information* on your new Tire and Wheel Analysis Plan

☐ A free copy of your "Industrial Tire Guidebook".

Name _____

Company _____

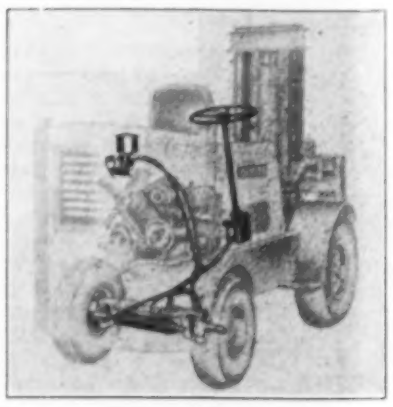
City _____ Zone ____ State ____

RESEARCH KEEPS B.F.Goodrich FIRST IN RUBBER

If you write maker identify as IEN - 8291

TRUCK . . Hydraulic mechanism developed to steer company's trucks

Source: TOWMOTOR CORP.
1224-28 E. 152nd St., Cleveland 10, Ohio



Retains steering "feel"

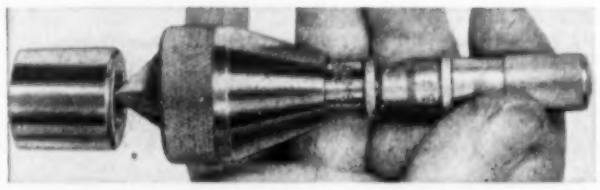
Power Steering can be specified now on the company's engine drive lines of industrial trucks. The mechanism also can be applied in the field to late models now in service. Its application reduces, by about 80 per cent, the effort required to turn the steering wheel. Six to eight pounds on the wheel will make a full turn, in either direction, in five seconds.

A hydraulic pump, with an oil reservoir, is mounted, with belt connection, to the truck's power plant. The oil flows through hose lines and a four-way valve to a double acting cylinder mounted on the axle beam. This cylinder moves the steering knuckle when the pressure centered valve is moved off center by turning the steering wheel. If pressure fails, the complete mechanism can be operated by hand.

If you write maker identify as IEN - 8292

GAGE . . Micrometer reads greatest diameter in a chamfer

Source: ACME INDUSTRIAL CO.
202 N. Laflin St., Chicago 7, Ill.



Apply and read

New gage provides a direct reading of the end diameter of a chamfer, to 1 in. in an angle range between 0 and 90 deg. included angle. Depth of the chamfer can be computed. Readings are made the same as on a standard micrometer. A master check bar is supplied with the micrometer. It carries a known indicated end diameter and chamfer to check the calibrations on the micrometer. Packaging is in a felt lined varnished wood case.

Identify as IEN - 8293

New process has been developed to insulate printed circuit resistors, capacitors, transistors, in two layers of filled organic resin, and two additional thin impervious skins of hard inert inorganic matter. Mummies trade names the finished job which Vacumet Incorporated, 1265-69 N. Clybourn Ave., Chicago 10, Ill., is prepared to handle for components you send to it. Details on request.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8294

for all stud threads and stainless steel applications . . .

LEADING INDUSTRIALS now standardize on

√ speeds up dis-assembly time!
√ prevents stud breakage!
√ eliminates pitting of stainless steel!

Stud breakage, long an expensive maintenance problem has been solved by the leading industrials who have standardized on Fel-Pro C-5 "Hi-Temp" as an anti-seize coating for all stud threads and stainless applications.

Fel-Pro's exclusive Colloidal-Copper formula allows for easy separation and reduces stud breakage of threaded assemblies after long exposure to extreme temperatures. It eliminates galvanic pitting of stainless and alloy steel even where dissimilar metals are joined.

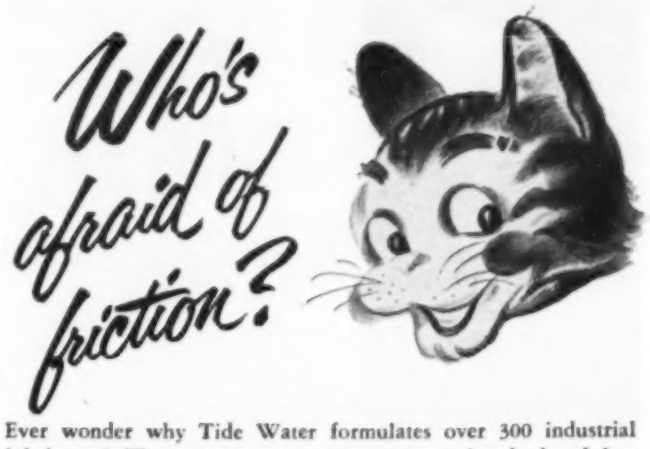
Conduct your own tests with C-5 "Hi-Temp" at our expense. See how it can lick your toughest thread breakage problems . . . Write for FREE Sample and complete data sheet TODAY!

NO MORE FROZEN OR GALLED STUDS EVEN AT 1800° F

FELT PRODUCTS MFG. CO.
1523 Carroll Ave., Chicago 7, Illinois

6163 IENR

If you write maker identify as IEN - 8295



Ever wonder why Tide Water formulates over 300 industrial lubricants? The answer can save you many hundreds of lost lubrication dollars! Because the problems of friction are varied . . . we believe that each job requires a *specialized* lubricant, an oil or grease specifically designed for peak efficiency . . . at lowest cost. And we're constantly on the lookout for formulas that do an even better job. That's why we say: When it comes to selecting the proper lubricant—be specific. Ask your local Tide Water representative for the *one* Tycol lubricant that's *engineered to do the job!*

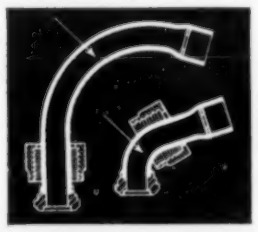
TYCOL — TIDE WATER ASSOCIATED OIL COMPANY
17 BATTERY PLACE · NEW YORK 4, N. Y.

Refiners and Marketers of Veedol . . . The World's Most Famous Motor Oil

If you write maker identify as IEN - 8296

Tube Talk THE "HOW-TO" COLUMN

PROBLEM: To find seamless tubing that was bright, free of scale, heat-resistant, and suitable for bending and swaging by Titeflex, Inc., Newark, N.J.



Application: 90° elbow fittings of high quality for aircraft and ordnance engine applications.

SOLUTION: Superior Tube Company's 321 Stainless Steel Tubing—7/16" O.D. x .035" wall; purchased through local distributor.

RESULT: Superior 321 Stainless reduced rejections due to scaling, met rigid specifications, including bending and swaging requirements; withstood manufacturing heat of 1700°-1800°F.

Use of Superior tubing stepped up production and increased quality.

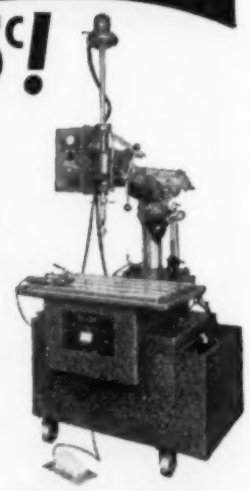
Suggestion—Write for information and literature today.

SUPERIOR TUBE COMPANY
2016 Germantown Ave., Norristown, Pa.

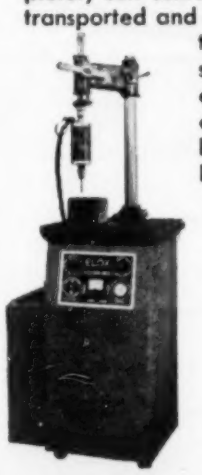
If you write maker identify as IEN - 8297

You can salvage Valuable Parts— —FOR LESS THAN 25¢!

Including Labor, Materials, Burden



Elox Electron Drills* are *production* machines designed for fast removal of broken taps, drills, studs, etc., without harm to thread or wall, sticking or welding. Most units are completely self-contained, easily transported and come ready to plug in. As simple to operate as any drill press, Elox Electron Drills* are an insurance against loss of time, money and materials. Throughout the world, Elox machines salvage millions of dollars of work each year. Check your scrap today. There's an Elox Electron Drill* priced for any industrial requirement. Write today.

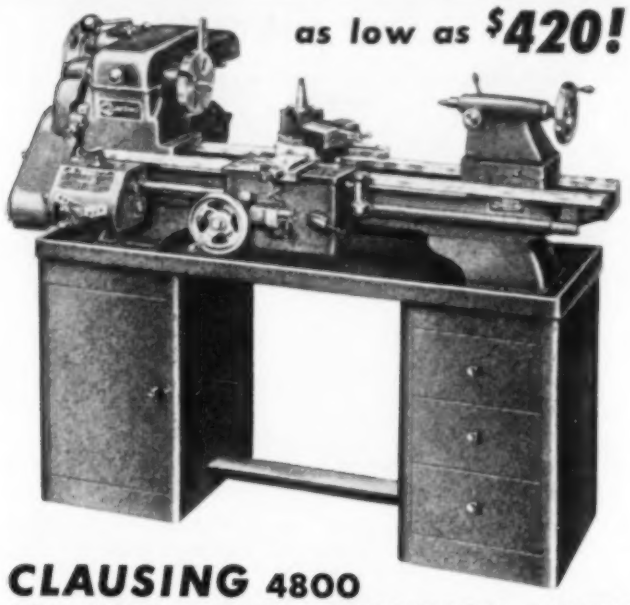


ELOX CORPORATION OF MICHIGAN
724 N. Rochester Road
CLAWSON, MICH.

If you write maker identify as IEN - 8298

HEAVY-DUTY PRECISION

as low as $420!



CLAUSING 4800

12" HEAVY-DUTY PRECISION LATHE

Timken Bearings! Friction Clutch and Brake! Quick-Change Gears! Vee-Ways! Splash lubricated apron! *Heavy-duty precision construction.* Prices start at $420 for standard change-gear lathe, 24" centers, less cabinet, motor. Send today for literature.

Atlas CLAUSING PRECISION MACHINE TOOLS — DIVISION ATLAS PRESS COMPANY

CLAUSING DIVISION
ATLAS PRESS COMPANY
7-105 N. PITCHER ST., KALAMAZOO, MICH.

If you write maker identify as IEN - 8299

Designed for those who need *LIGHT-HEAVYWEIGHT* Machines

NEW 16" and 14" Band Saws by WALKER-TURNER

For jobs where neither the capacity nor expense of heavy industrial machines is warranted, Walker-Turner has engineered a special class of *light-heavyweight* Band Saws.

Professional in design and operation, yet *light* for production machines, Walker-Turner Light-heavyweights give the needed accuracy, range of speeds, and ease of handling, without the necessity of heavy investment.

For complete information, write your name and address in the margin below.

SOLD ONLY THROUGH TRAINED INDUSTRIAL DISTRIBUTORS

16" WALKER-TURNER BAND SAW

is low in initial cost, high in operating efficiency. Automatic power feed maintains a pre-set feeding pressure, lessens operator fatigue. Capacity: blade to frame 16", guide to table 8". Three-piece construction for extra strength and rigidity. 8 blade speeds. Fast, safe, and easy to handle.

WALKER-TURNER DIVISION — walker turner — KEARNEY AND TRECKER CORPORATION, PLAINFIELD, N. J.

DRILL PRESSES — Hand and Power Feed • RADIAL DRILLS • Wood and Metal Cutting BAND SAWS • TILTING ARBOR SAWS • RADIAL SAWS • JIG SAWS • LATHES • SPINDLE SHAPERS • JOINTERS • BELT AND DISC SURFACERS • FLEXIBLE SHAFT MACHINES

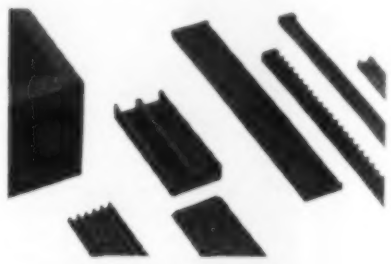
Use this space

to send for full details and specifications.
WALKER-TURNER DIVISION, Kearney & Trecker Corp.
Dept. IE7, Plainfield, N. J.
(Please write your name and address in margin of page)

If you write maker identify as IEN - 8301

BRAZING . . Machined carbon boats support work assemblies in a furnace

Source: STACKPOLE CARBON CO.
1942 Tannery St., St. Marys, Pa.



Ask for Catalog 40A

Illustrated are representative types of boats, or trays, on which work assemblies are handled in a brazing furnace. The company is prepared to supply similar units in any required design and quantity as a new service in its manufacture of carbon products. Alloys will not stick to the carbon. Copper or silver solders will not wet it.

The carbon can be machined to supply simple or complicated shapes. It withstands severe thermal shock without spalling or cracking so completed work can be cooled quickly. The company has prepared a new 44-page catalog illustrating and describing the boats and many other specialties it is prepared to make from carbon.

If you write maker identify as IEN - 8302

WELDING . . Cover plates and lenses for goggles, helmets

Source: EASTERN EQUIPMENT CO.
44 Terwood Road, Willow Grove, Pa.

Individually packaged

Cover plates, measuring 2 by 4¼ in., welding lenses and cover lenses for cup type and spectacle type goggles, are now available from stock. Lenses, colored green, can be ordered to eliminate glare in welding aluminum. Cobalt blue lenses apply for smelting and furnace work. Non-pitting cover lenses are spatter resistant and can be used under extremely moist conditions. Clear shatterproof laminated lenses are also available when glare resistance is not required.

If you write maker identify as IEN - 8303

DRIVE . . Variable speed unit, ¼ to ¾ hp., ratios to 10 to 1

Source: U. S. ELECTRICAL MOTORS INC.
Box 2058-A, Terminal Annex, Los Angeles 54, Calif.

Type VA-GW

Conveyor drive is a typical application for this new right angle design of the company's Syncogear Varidrive variable speed unit. The complete assembly includes a ¼ to ¾-hp. ac. motor, the V-belt transmission with speed varying control lever and the worm and right angle gear head in which the output shaft is carried. The design prevents transmission of mounting stresses through the unit. Gear and bearing alignment are permanent.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8304

Write for your copy of this new 32-page engineering manual . .

This new illustrated manual is full of information about Mueller Brass Co. brass, bronze and aluminum forgings . . . includes charts, graphs, facts and figures that give complete data about design factors, tolerances and the chemical, mechanical and physical properties of the MBC forging alloys. Get your copy of this valuable handbook today . . . it's yours for the asking.

MUELLER BRASS CO., PORT HURON 26, MICHIGAN

112-A

If you write maker identify as IEN - 8305

with PLASTIC ROCK!

Trowel a smooth, tough, malleable surfacing right over your old concrete or wood floor.

Plastic Rock comes complete, packed in barrels; nothing more to buy; no "formula" to confuse. Simply mix and trowel over old floor; adheres to concrete, wood, steel; average depth ⅛"; perfect feather edge; hundreds of tons rolling on steel wheels only improve it. Spark-proof, skid-safe wet or dry; dustless, noiseless; cannot splinter, crumble, curl or loosen. Used by largest industries and railroads.

ASK FOR REPORT 220-Q-7.

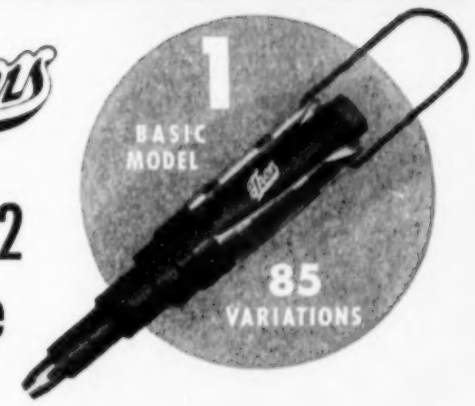
UNITED LABORATORIES, INC., 16803 Euclid Ave., Cleveland 12, Ohio

ULI — PRODUCTS AND PROCESSES for PROTECTING PROPERTY
Field Representatives All Over The World

If you write maker identify as IEN - 8306

SPECTACULAR PRODUCTION, REAL AIR TOOL ECONOMY

Thor



No. 2 Line

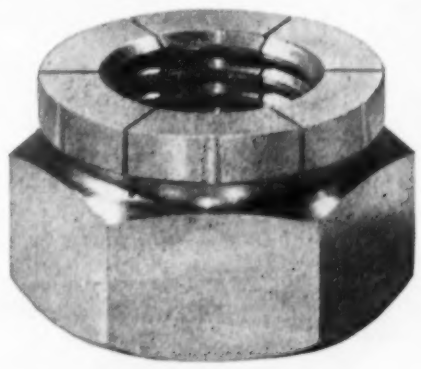
DRILLS • SCREWDRIVERS
NUTSETTERS • GRINDERS

ONE unified "family" of *85 light weight air tools* with interchangeable handles, gear cases, chucks, spindles, screwdriver and nut setter attachments. Simplifies all your air tool problems in this class. For catalog, write Thor Power Tool Company, Aurora, Ill.

TOOL MAKERS FOR SIXTY YEARS

If you write maker identify as IEN - 8307

they're ONE piece, ALL metal . . .



no parts to work loose or get lost

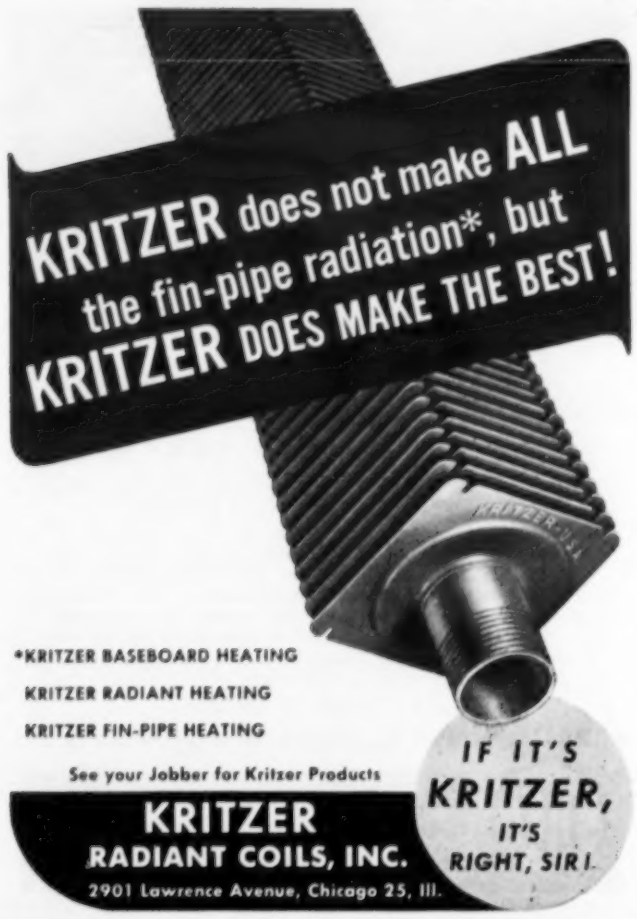
Because they are one piece—nothing to assemble, come apart, lose or forget—FLEXLOC locknuts save production time. Because they are all metal, they lock and stay tight at higher temperatures. See your local industrial distributor for literature and samples or write SPS, Jenkintown 14, Pa.

Our Fifteenth Year : A START FOR THE FUTURE

FLEXLOC LOCKNUT DIVISION

SPS — JENKINTOWN PENNSYLVANIA

If you write maker identify as IEN - 8308



KRITZER RADIANT COILS, INC.
2901 Lawrence Avenue, Chicago 25, Ill.

If you write maker identify as IEN - 8309

CONSIDER WING
STEAM TURBINES
AS MOTIVE POWER

TO OPERATE
COMPRESSORS
GENERATORS
FANS
PUMPS
BLOWERS
WINCHES
MIXERS
ETC.

HERE ARE SOME ADVANTAGES:
VERSATILE—An infinite range of speeds
DEPENDABLE—Independent of electric power failures
ECONOMICAL—Cost little or nothing to operate if exhaust is utilized
NO SPARKS—For use in explosive or inflammable atmosphere.
SMOOTH ACCELERATION OR DECELERATION—Can be smoothly accelerated or slowed down to meet the need of process, pump, fan or other driven apparatus.

OPERATING RANGES
H. P. to 150
Pressures to 600
Back Press to 50
Temp. to 750°
Speeds to 4000 RPM

Wing Steam Turbines have been serving industry for over half-a-century

Write for Bulletin SW-1a

L. J. Wing Mfg. Co. 160 Vreeland Mills Rd., Linden, N. J.

If you write maker identify as IEN - 8310

GET THIS NEW GUIDE TO **TUTHILL** GENERAL-PURPOSE PUMPS

- For Design
- For Production
- For Maintenance

The new Tuthill Catalog No. 102 provides a handy reference on general purpose pumps to fill your individual needs. It includes complete data on mechanically-sealed units, automatic reversing types, stripped pumps for built-in applications and other variations to meet specific requirements. You'll save time, trouble and money with this information.

Write today for Tuthill Catalog No. 102.

TUTHILL PUMP COMPANY
Dependable Rotary Pumps since 1927
939 East 95th Street, Chicago 19, Illinois
Canadian Affiliate: Ingersoll Machine & Tool Company, Ltd. Ingersoll, Ontario, Canada

If you write maker identify as IEN - 8311

CONTROL . . Electronic pyrometer actuates relay to regulate a process

Source: WHEELCO INSTRUMENTS DIVISION
1312-16 Rock St., Rockford, Ill.

Bulletin F-5783

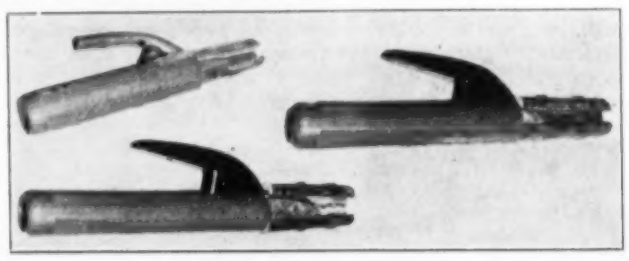
Anticipating action that minimizes change from a set temperature characterizes this new Model 221C Capacitrol. It acts through a resistor network and relay circuit to anticipate approach and departure from a set temperature caused by heat transfer lag or changing load. The new line includes two regular "on-off" controls and two for proportioning action. All have indicating dials in addition to their control mechanisms. Overall temperature range is to 3,600 deg. F.

Frequency of oscillating current flowing between coils A, mounted on the temperature setting lever B, is changed when the metal flag C, mounted on the temperature indicating pointer arm, is moved between the coils by a temperature change. A movement as small as 0.006 in., representing a very small change, will produce control action which is represented by change in frequency. This change is impressed on the relay solenoid coil to actuate its contacts and operate fuel valves or other means to restore desired temperature.

If you write maker identify as IEN - 8312

WELDING . . Arc electrode holder features reversible jaw insulation

Source: A. O. SMITH CORP.
Box 584-A, Milwaukee 1, Wis.



Adjustable spring is enclosed

Three capacities rate 200, 300 and 500 amp. in this new arc electrode holder. Its spring backed jaw is opened by pressing the release lever which serves also to prevent the holder from rolling in the operator's hand. The jaw insulators can be turned end for end on the job. The ventilated handle promotes cool operation in standard welding service.

identify as IEN - 8313

Refrigerated trucks can be equipped with a new structural plastic door and a plastic corrugated lining by Strick Company, Godfrey & Whitaker Ave., Philadelphia 24, Pa. The new Strick design replaces wood and metal. It is lighter than aluminum, will not absorb or transfer odors, has negligible moisture absorption. It is proof against rot, attack by vermin, will not discolor or stain critical cargoes. It fits well and maintains an efficient air seal.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8314

with DINGS Magnetic Sheet Floaters

- Non-electric Dings Sheet Floaters separate stacked steel sheets automatically so they're easily grasped by operator for faster feeding
- Prevent feeding of doubles — protect dies
- Handle irregular sizes, odd shapes
- Protect painted and finished surfaces
- Pay for themselves in 2 to 3 months time

PUT Dings Sheet Floaters on trial in your shop. Money back in 30 days if you're not satisfied — write DINGS MAGNETIC SEPARATOR CO., 4755 W. Electric Ave., Milwaukee 46, Wisconsin, for details today.

SF 153

DINGS Magnets

If you write maker identify as IEN - 8315

"AMF DeWalt is the *One-Machine* answer to our maintenance problems!"

says E. W. Hatchell, Shop Foreman, Miller & Rhoads Department Store, Richmond, Va.

"De Walt® makes it easy to meet our day-to-day maintenance needs. It's ideal for anything that comes up. That includes general fixture work; making flooring, shelving, crating; making or repairing office furniture."

You'll find De Walt brings amazing versatility to your plant maintenance operations, too. It makes many cuts —cross-cut, rip, bevel, miter, dado, shape, rout and others.

And it's fast, accurate, safe. Send for catalog to De Walt, Inc., Dept. IEN-7, Lancaster, Pa.

amf products ARE BETTER ... by design
AMERICAN MACHINE & FOUNDRY COMPANY

De Walt Inc. Lancaster, Pa.

DE WALT
POWER SAWS

If you write maker identify as IEN - 8316

Send YOUR *AUTOMATION PROBLEMS* to KRAUS

No matter how tough they are . . . give us a chance to solve your automation problems. Highly skilled engineers adapt Kraus Hoppers to your needs . . . and build completely coordinated assembly machines to fabricate your product. We won't work miracles, but we may solve the impossible. Send your automation problems today to

KRAUS DESIGN, Inc.
948 Exchange Street
Rochester 8, N. Y.

If you write maker identify as IEN - 8317

REMOVE STUDS Like Bolts with this

FAST ACTION STUD WRENCH

For any industrial or automotive application, here is a simple one-piece tool that extracts or sets any stud as easily as a bolt. Thread damage is minimized. Studs will twist off before this wrench will slip—self tightening, instant release.

- SW-1 fits anything of ¼" to ½" diam., round or irregular. SW-2 handles 17/32" to ¾" Diam.
- Replaceable jaws of special analysis steel, milled to bite with progressive power and without slippage.
- A one-piece tool . . . no collets.
- Built-in ratchet action for close quarters.
- Not an eccentric action . . . works in tight places—2" Diam., removes studs spaced only 1" apart. (2½" diam. on SW-2)
- Instant stud release; no fighting to get stud out of the wrench.

CLARK FEATHER STUD WRENCH . . . . SW-1 . . . each $ 7.50; SW-2 . . . each $12.50

Buy from your tool source or use this coupon.

CLARK-FEATHER MANUFACTURING COMPANY
Fort Morgan, Colorado

I am interested in your Stud Wrench SW-1 ☐ SW-2 ☐

( ) Where can I order? Name_____

( ) Please send more information. Address_____

If you write maker identify as IEN - 8318

Extruded or Roll Formed?

WERNER CAN PRODUCE IT and **Heat Treat—too** in T4–T6 Tempers

IN	VOLUME
TO	PRECISION
WITH	SERVICE

Here are a few of the many products on which Werner shapes are used...

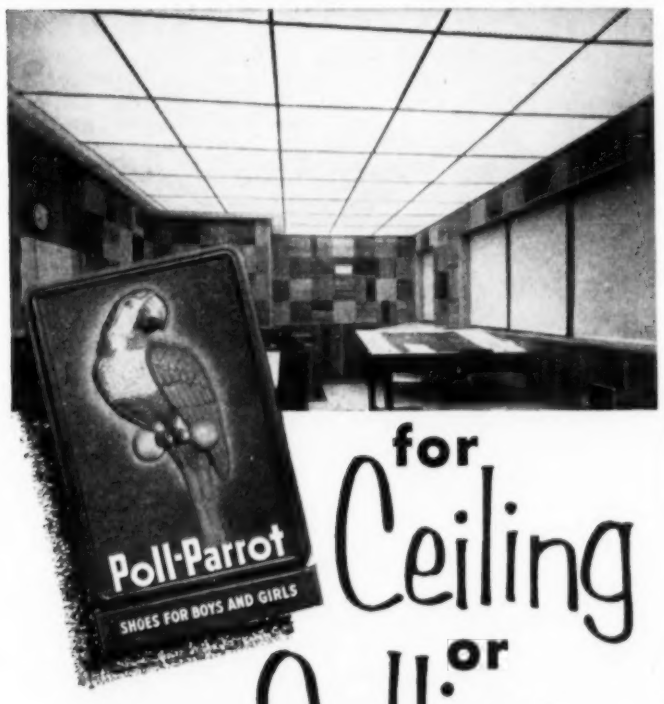
Trailers, Trucks & Buses, Railway Coaches • Aircraft • Furniture • Appliances • Electrical Fixtures • Storm Doors & Windows, Sliding Door Hardware • TV Antenna Tubing & Masts

One source for your extruded or roll formed requirements that will give you all the service you need. Over 100,000 feet of floor area . . 30 years of experience and millions of feet of custom extruded and roll formed sections make Werner a reliable, resourceful and skilled supplier. Also available—Anodizing, Cutting, Punching, Bending, Welding, Polishing, Assembly. WRITE for facilities folder *today*.

Werner

R. D. Werner Co., Inc., 295 Fifth Ave., New York 16, N. Y., Dept. I-5
Factories: Greenville, Pa.; Oshawa, Ontario, Canada

If you write maker identify as IEN - 8319



for Ceiling or Selling...

"VINYLITE" RIGID SHEETS

Such varied jobs grow naturally out of the many useful properties of VINYLITE Brand Plastic Rigid Sheets.

This glowing, sweeping ceiling is made by placing lightweight VINYLITE Rigid Sheeting on channels supported from above. It conceals pipes, ducts and lighting fixtures. It diffuses light to every corner of the room. Harsh glare and shadows are gone. The whole room has a cleaner, brighter look.

Printed in color, then easily heat-formed to three dimensions, VINYLITE Rigid Sheets also make outstanding signs and displays. They're tough and flexible—resistant to warping, cracking, moisture, grease. A damp cloth cleans them. Translucent areas can be illuminated.

Transparent, translucent, or opaque, VINYLITE Plastic Rigid Sheets come in sheets 20 by 50 inches and in calendered stock of 21½ inches by 51½ inches or in rolls 51½ inches wide. Their surfaces are matte, press-polished, or a combination of both. Their uniformity in thickness cuts down on rejects during forming operations.

Some successful, practical ideas and a complete description of properties are included in the booklet "VINYLITE Plastic Rigid Sheets." Write for your free copy to Dept. QX-3.

Flexi-Module ceiling installation by Sylvania Electric Products Inc., Wheeling, West Virginia. Plastics of Marlux, fabricated by Marlux Corporation, Somerville 43, Mass.

Sign by Timely Products Manufacturing Co., Des Moines, Ia.

Vinylite BRAND PLASTIC SHEETS

TRADE MARK

BAKELITE COMPANY
A Division of Union Carbide and Carbon Corporation
UCC
30 E. 42 St., New York 17, N. Y.

If you write maker identify as IEN - 8321

INSULATING . . Vibration isolator provides non-linear support action

Source: CONNECTICUT HARD RUBBER CO.
405-9 East St., New Haven 9, Conn.

To specification

Initial rate of energy absorption is higher for this new Non-Linear Mount due to high initial stiffness. As a result there is no lag in reaction to vibration on shock loading. Stiffness is constantly changing during loading. There is no well-defined natural frequency so the problem of critical resonant is minimized.

Five types provide load ratings minimum at 10 to 25 lb., maximum at 500 to 2,000 pounds. The diameter of the steel encased rubber element is 1.2 to 7.5 inches. Overall height of the element is about 1 to 7½ inches. Either natural rubber or neoprene can be specified. Temperature range is between minus 50 and plus 165 deg. F.

If you write maker identify as IEN - 8322

MILLING . . Vertical machine, tracer control, air hydraulic feeds

Source: DEWITT LEWIS CO.
3631 Sophia St., Wayne, Mich.

Please note our error

In connection with our description of the new Hydro Micro-Tel vertical spindle milling machine, IEN-7094-53, we stated, in error, that it is made in Europe. Actually it is United States design and manufacture in every detail. The design is by Detroit engineers and special machinery builders. It is manufactured by a leading machine builder with some 80 years of experience.

If you write maker identify as IEN - 8323

PUMP . . Gear type hydraulic for built in application on equipment

Source: WEBSTER ELECTRIC CO.
1902 Clark St., Racine, Wis.

Ask for Bulletin H2A1

Three sizes in the new Series-HC hydraulic pump rate 5.4 to 10 gpm. at 1,800 rpm. and 1,000-lb. pressure, based on SAE-10 oil at 120 deg. F. Type HCS is plain design. Type HCSV includes an internal pressure relief valve. Both are fitted with double inlet and outlet ports on the end and sides.

Each is custom assembled to meet given requirements.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8324

NOT THIS... BUT THIS

Now...for a good shower

—deep freeze!

—scalding hot!

BANISH "BOOBY TRAP" SHOWERS

Use POWERS THERMOSTATIC Water Mixers

Real comfort and safety. No waste of time or hot and cold water.

POWERS THERMOSTATIC WATER MIXERS

—eliminate shower accidents

They are completely automatic, hold shower temperature wherever you want it regardless of **pressure** or **temperature** changes in water supply lines. Failure of cold water instantly shuts off the shower.

Tests prove Powers is safest shower regulator made for factories, schools, hospitals, hotels and clubs. Thousands now in use.

Used for Many Industrial Processes. Users report control within ½° F. Temperature Ranges: 65-115° F., 60-125° F., 75-175° F. Write for Bulletin 365. (b13)

THE POWERS REGULATOR CO.
Skokie, Ill. • Offices in Over 50 Cities • Est. 1891

If you write maker identify as IEN - 8325

Designers, Engineers, Plant Managers . . .

VALVAIR IS AS CLOSE TO YOU AS THESE REPRESENTATIVES

We take pleasure in offering you the services of these representatives. They are pneumatic specialists—*every one of them*. Phone the nearest one for information and expert help on your air control problems.

Alabama
Birmingham — S. L. Morrow Eng. Co.
California
Eureka — Bearings & Transmission Prod.
Pasadena — S. M. Kipp
San Francisco — The Burke Co.
Connecticut
Hartford — Gibson Eng. Co.
Georgia
Savannah — Air Products Co.
Illinois
Chicago — Walter Norris Eng. Co.
Indiana
Logansport — Tec Eng. Co.
Massachusetts
Boston — Gibson Eng. Co.
Michigan
Detroit — William Finn
Minnesota
Minneapolis — John Henry Foster Co.
Missouri
Kansas City — Ellis Akin Eng. Co.
St. Louis — John Henry Foster Co.
New York
New York City, Newark — K. E. Knotts Co.
Buffalo, Rochester, Syracuse — R. C. Neal Co.
Ohio
Cleveland — P. W. Rice
Dayton — K. C. Mosier
Oregon
Portland — Power Transmission Prod.
Pennsylvania
Glenside — J. Boyd Coates
Pittsburgh — Ralph A. Hiller Co.
Texas
Houston — Hydraquip Corp., Wendler Co.
Washington
Seattle — Chain Gear, Inc.
Wisconsin
Milwaukee — Jas. H. Connell
CANADA
Montreal — Cowper Co., Inc.
Toronto — John Spotton Co., Ltd.
Vancouver — Galbraith & Sulley, Ltd.

Rely Upon **Valvair**

If you write maker identify as IEN - 8326

eye-opener

JOHNSON *Rotary Pressure* **JOINTS**

The Johnson Joint has solved many design and production problems as nothing else can. And the Type L, shown above, is helping to fit it into more applications all the time. It has lugs cast on body to permit simple rod support, an arrangement that both simplifies installation and assures proper alignment. Completely packless, self-lubricating and self-adjusting, the Type L Johnson Joint is used on calenders, dryers, mills, etc. — wherever steam or liquids must be admitted to rotating machine parts.

Write for new catalog

The **Johnson Corporation**
846 Wood St., Three Rivers, Mich.

If you write maker identify as IEN - 8327

WHEN YOU MUST FIX BAD FLOORS *FAST* USE STONFAST

JUST PATCH AND TRUCK OVER IMMEDIATELY!

STONFAST comes ready mixed and your own man can do the job. There's no interference to traffic or plant operation. It's tough, resilient, and packs harder under continued heavy loads. Ideal for driveways, trucking aisles, platforms and factory floors. Write today.

STONHARD COMPANY
Building Maintenance Materials Since 1922
102 Stonhard Bldg., 1306 Spring Garden St., Philadelphia 23, Pa.

Yes, I want details on STONHARD STONFAST 102/7/53
Name .....
Company ..... Title .....
Address .....
City ..... Zone ..... State .....

If you write maker identify as IEN - 8328

PREVENT ACCIDENTS

DUE TO PUNCTURES

WITH
STEARNS
ROAD MAGNETS

Motorists have fewer punctures, fewer accidents . . . when a Stearns Road Magnet is on the job removing tramp iron from roads, streets and parking lots. As much as 25 pounds of scrap iron has been picked up on a twenty five mile run. Consult Stearns, largest exclusive builder of magnetic equipment. 1005

STEARNS MAGNETS

STEARNS MAGNETIC, INC.
626 SOUTH 28TH STREET, MILWAUKEE 46, WIS.

If you write maker identify as IEN - 8329

ALL STEEL BUT— LOOK HOW LIGHT!

THIS is one of the new A-F *Live Rail* units. It is available in 5 ft. and 10 ft. *lengths* and 45° and 90° *curves* — with 4 or 8 wheels per foot . . . or in *completely assembled sections* of 2 to 4 rails. Most versatile of all pieces of equipment, *Live Rails* can also be combined quickly — or re-combined, by anyone, to make 18 different wheel patterns 7½" wide to 16½" wide — portable or permanent. Write for FREE folder — today!

LIVE RAIL
ALVEY-FERGUSON CINCINNATI, OHIO

A NEW CONCEPT IN MOVEMENT

THE ALVEY-FERGUSON COMPANY
A-F First in Product Handling Since 1901
342 Disney Street Cincinnati 9, Ohio

If you write maker identify as IEN - 8330

NEW BLACK & DECKER #88 SANDER DOES FINISH JOB WITHOUT HAND SANDING

TOWSON, MD. — Latest addition to Black & Decker's sanding line — the B&D Utility No. 88 Sander, featuring a powerful B&D universal motor. Orbital in action, it produces a satin-like finish every time . . . and it won't track, score or burn the surface. Eliminates costly, tiresome hand sanding and is 10 times faster. Ideal for finishing wood or metal surfaces. Has king-size platen for close-corner work; unique paper holder to speed changing abrasive paper. 40½ sq. in. of sanding surface, weighs only 8½ lbs. See your nearby B&D outlet or write: THE BLACK & DECKER MFG. CO., 608 Pennsylvania Ave., Towson 4, Md.

BLACK & DECKER
No. 88 SANDER
$64.50

Black & Decker
UTILITY ELECTRIC TOOLS
PORTABLE ELECTRIC TOOLS

"I WISH I HAD"

This column concentrates upon reader requests for information on sources of supply for products or services or technical advice which we ourselves cannot supply, advises you of new patent-protected products for your possible manufacture, and available surplus of specialized products.

It is published to invite your suggestions and comments, which are forwarded immediately to the originator, just as we will be happy to publish similar problems for you.

ROLL COVER . . "I wish we had a source for a spongy material to cover a steel roller measuring about 20 in. in length by 5 in. in diameter. The material must withstand immersion in paraffin at 300 deg. F. and impart no color, odor or taste to the paraffin. It should be capable of withstanding continuous contact with a similar coated or plain steel roll under moderate pressure of about 3 lb. per inch of length. We now use muslin and have tried silicone rubber compounds, but are not satisfied with either. We are located in Long Island, N. Y." **IEN W-54**

TANKS . . "I wish we had a source of supply for tanks made of steel, stainless steel or plastic lined steel to measure about 3 by 2 by 4 ft. and of Monel Metal to measure 6 by 2½ by 4 feet. The dimensions are approximate. We are located in Edgerton, Ohio. Our reason for this item is that we need the tanks sooner than we can obtain from normal sources." **IEN W-55**

SURPLUS . . "I wish we had a buyer for one or more of ten surplus Ford industrial engines that we have in stock in Elgin, Ill. The engines are No. 226 Ford 6-cylinder industrial design with Rockford clutch power take-offs. They have not been used." **IEN W-56**

SURPLUS . . "I wish I had a buyer for a gas fired Stewart industrial furnace, Size 4, Serial 181104. It is in storage in Waterville, Maine." **IEN W-57**

SURPLUS . . "I wish we had a buyer for a Fisher melting furnace, with a No. 125 crucible. The furnace is gas fired, hand tilt design No. BB1-125. It is fitted with a silicon carbide lining, multiple burners and a proportional mixer. It is in storage in Waterville, Maine." **IEN W-58**

SURPLUS . . "I wish we had a buyer for an unused piece of 42 in. conveyor belting measuring 42 in. in width by 80 ft. in length. The belt construction is 5-ply 32 oz. duck with a ⅛ in. top and a 1/16 in. bottom covering and a breaker strip. The belt is in storage in Warren, Ohio." **IEN W-59**

SURPLUS . . "I wish we had a buyer for 28 unopened cartons each containing four No. 40-000 Fostoria infrared lamp sections. The unused equipment is in storage in Easton, Penna." **IEN W-60**

SURPLUS . . "I wish I had a buyer for an International Business Machine payroll card timeclock, Model 8500. The clock is in excellent condition. It operates on 110-volt 60-cycle single phase ac. It cost $285 when it was new. We hold it for $125 and will be glad to take it back if it is not completely satisfactory. It is now in Kansas City, Mo." **IEN W-61**

SURPLUS . . "I wish we had a buyer for an Elliott Fisher billing machine, Model CAX43K. It is a double crossfooter unit equipped with 13 registers, three of them 9 digits and ten 8 digits, in storage in Oakland, Calif." **IEN W-62**

If you write maker identify as IEN - 8331

DeBothezat "Hy-V" Air Jets project a concentrated stream of cool air as far as 35 feet WITHOUT DUCTS. Models available for wall or floor mounting, with fan wheels 18" to 30" in diameter. Capacities up to 12,000 CFM. Send today for FREE CATALOG.

"Hy-V" Air Jets
DeBOTHEZAT FANS DIVISION
American Machine and Metals, Inc.
East Moline, Illinois

If you write maker identify as IEN - 8332

The instrument man's

"Man Friday"

You'll never run out of uses for this high-fidelity Foxboro Portable Potentiometer. Use it to check overall accuracy of your temperature instruments and thermocouples; as a substitute temperature instrument during emergencies; for exploring temperatures not requiring continuous measurement.

Accurate to ¼ of 1% of scale. Extra-long (17") scale for close, accurate reading and *vernier dial* for precise balancing. Weighs only 12½ lbs. Rugged metal case-and-cover. Write for details. **The Foxboro Company, 427 Neponset Ave., Foxboro, Mass., U.S.A.**

FOXBORO REG. U. S. PAT. OFF. PORTABLE POTENTIOMETERS

If you write maker identify as IEN - 8333

You Can Take the Word of 50,000 Firms

That SPEED SWEEP Floor Brushes Sweep Cleaner, Faster and Outlast Ordinary Brushes

Unique in design and construction, Speed Sweep so far outperforms and outlasts other floor brushes that over half of the nation's top rated firms use Speed Sweep under widely diversified sweeping conditions. We know Speed Sweep can do a better job for you, too. In fact, we guarantee it. We invite a trial order on that basis. Write for complete facts, including styles, sizes and prices today.

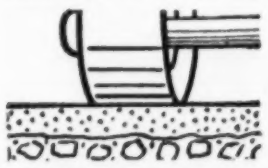
MILWAUKEE DUSTLESS BRUSH CO.
530 N. 22 STREET, MILWAUKEE 3, WISCONSIN

If you write maker identify as IEN - 8334

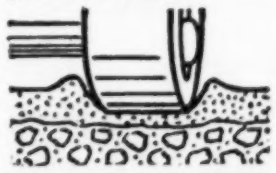
NEW FLOORS In 24 Hours

BONDS PERFECTLY — NEVER COMES LOOSE

No Chipping required — Install directly over your old concrete, wood, brick or stone floors, walks or drives. Interior or Exterior.



PERMAFLEX Floors will not rut under 3000 lbs. pressure per square inch.



OLD MASTICS RUT and DENT under 300 lbs. per square inch.

HARD MASTIC
HEAVY DUTY · DUSTPROOF · WATERPROOF · FIRE-RESISTANT · RESTFUL · QUIET · SLIP PROOF · SANITARY

Many users apply "PERMAFLEX" over new concrete to prevent wearing away of the concrete under truck wheels and thus preserve structural strength.
The most severe trucking conditions in 1000 of the largest industrial plants show no destructive effect on "PERMAFLEX" after years of use.

AMAZING! UNBELIEVABLE!
Until you try "PERMAFLEX"

Test 100 square feet and be convinced. Write for literature and trial offer.

Atlanta—Main 4110
Baltimore—Belmont 3770
Chicago—Fulton 5-4666
Detroit—Tuxedo 5-5500
New York—Wis. 7-5474
Norfolk—2-9035
St. Louis—Lucas 3700
San Francisco—Gar. 1-3196

INSTALL COMPLETE 15c per square foot

PERMAFLEX PRODUCTS COMPANY
1846 NORTH FRONT STREET, PHILA. 22, PA.